

Evolving To Meet Tomorrow's Challenges

## **CLEAN HARBORS COLFAX, LLC COLFAX, LOUISIANA**

### **RCRA PERMIT APPLICATION PART II**

### **APPENDICES A to T**

**RECEIVED**  
AUG 14 2003  
DEPT. OF ENVIRONMENTAL QUALITY  
OFFICE OF ENVIRONMENTAL SERVICES  
PERMIT DIVISION

**Prepared for:**

**Clean Harbors Colfax, LLC  
3763 Highway 471  
Colfax, Louisiana 71417**

**Agency Interest #32096  
LAD 981055791**

**Volume 2 of 4**

**AUGUST 2003**

# CLEAN HARBORS COLFAX, LLC

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## HAZARDOUS WASTE PERMIT APPLICATION

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**APPENDIX A**  
**CERTIFICATION STATEMENT**

**CLEAN HARBORS COLFAX, LLC**

**CERTIFICATION STATEMENT**

## CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



\_\_\_\_\_  
Scott Kuhn  
Vice President of Environmental Compliance  
Clean Harbors Environmental Services, Inc.

7/28/03  
\_\_\_\_\_  
Date

Media Type (check one)


Agency Interest Number: 32096

Hazardous Waste ☒ Air ☐  
Solid Waste ☐ Water ☐  
Radiation Licensing ☐

Is this a copy of a previously submitted form? Yes ☐ No ☒

If yes, indicate the original submittal date: \_\_\_\_\_

If yes, indicate the original permit number: \_\_\_\_\_

Department of Environmental Quality Permits Division P.O. Box 82135 Baton Rouge, LA 70884-2135 (225) 765-0219		<b>Addendum to Permit Applications</b> <b>per</b> <b>LAC 33:I.1701</b>		
Please Type Or Print	Company Name		<input checked="" type="checkbox"/> Owner	For Permits Division Use Only
	Clean Harbors Colfax, LLC		<input checked="" type="checkbox"/> Operator	
	Parent Company (if Company Name given above is a division) Clean Harbors			
	Colfax, LLC is a wholly owned subsidiary of Clean Harbors Disposal Services, LLC*			
	Plant name (if any)			
	Clean Harbors Colfax, LLC			
	Nearest town	Parish where located		
	Colfax	Grant		

Use attachments to provide the required information. "NA" is not an acceptable answer. If a particular section does not apply to you, explain why. \* which is a wholly owned subsidiary of Clean Harbors, Inc.

1. Please provide a list of the states where you, as applicant\*, have federal or state environmental permits identical to, or of a similar nature to, the permit for which you are applying. See attached list.

\*This requirement applies to all individuals, partnerships, corporations, or other entities who own a controlling interest of 50% or more in your company, or who participate in the environmental management of the facility for an entity applying for the permit or an ownership interest in the permit.

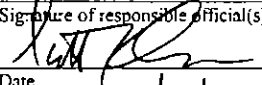
2. Do you owe any outstanding fees or final penalties to the Department? No ☒ Yes ☐ If yes, please explain.
3. Is your company a corporation or limited liability company? No ☐ Yes ☒ If yes, attach a copy of your company's Certificate of Registration and/or Certificate of Good Standing from the Secretary of State.

**Certification:**

I certify, under provisions in Louisiana and United States law which provide criminal penalties for false statements, that based on information and belief formed after reasonable inquiry, the statements and information contained in this Addendum to the Permit Application, including all attachments thereto are true, accurate, and complete.

**Responsible Official**

Name	Scott Kuhn
Title	Vice President, Environmental Compliance
Company	Clean Harbors Colfax, LLC
Suite, mail drop, or division	
Street or P.O. Box	3763 Highway 471

City	Colfax	State	LA	Zip	70417
Business phone					
818-627-3443					
Signature of responsible official(s)					
					
Date					
7/28/2003					

The Department may require the submission of additional information if it deems such information necessary.

June 19, 2001

Addendum to Permit Applications

Per

LAC 33:1.1701

1. List of states where applicant has similar permits:

Arizona	
California	
Colorado	
Connecticut	
Florida	
Georgia	
Iowa	
Illinois	
Indiana	
Kansas	
Louisiana	
Massachusetts	
Maryland	
Maine	
Michigan	
Minnesota	
Missouri	
North Carolina	
North Dakota	
Nebraska	
	New Hampshire
	New Jersey
	New Mexico
	Nevada
	New York
	Ohio
	Oklahoma
	Oregon
	Pennsylvania
	Rhode Island
	South Carolina
	Tennessee
	Texas
	Utah
	Virginia
	Vermont
	Washington
	Wisconsin
	West Virginia

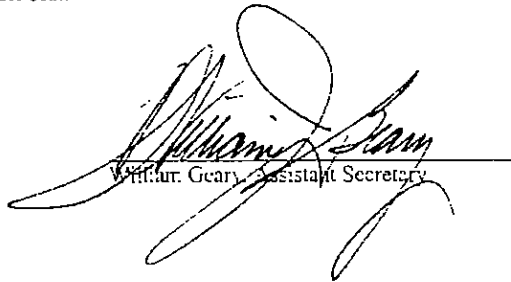


**Assistant Secretary's Certificate**

I, William Geary, Assistant Secretary of Clean Harbors, Inc. and all of its subsidiaries listed on Exhibit A, certify that each operations person with the title of Director, General Manager or Compliance Manager has the authority to sign and certify environmental documents, including but not limited to environmental reports, related to the operation of the facility. I further certify, that each operations person with the title of Director, General Manager or Compliance Manager at a facility with more than 250 people or having gross annual sales or expenditures in excess of \$25 million dollars, has the authority to sign and certify environmental documents, including but not limited to permit applications, related to the operation of the facility.

Witness the execution hereof under seal.

September 20, 2002

  
William Geary, Assistant Secretary

## Exhibit A

Company
Altair Disposal Services, LLC
Baton Rouge Disposal, LLC
Bridgeport Disposal, LLC
Clean Harbors Andover, LLC
Clean Harbors Antioch, LLC
Clean Harbors Aragonite, LLC
Clean Harbors Arizona, LLC
Clean Harbors Baton Rouge, LLC
Clean Harbors BDT, LLC
Clean Harbors Buttonwillow, LLC
Clean Harbors Canada, Inc.
Clean Harbors Chattanooga, LLC
Clean Harbors Coffeyville, LLC
Clean Harbors Colfax, LLC
Clean Harbors Deer Park, LP
Clean Harbors Deer Trail, LLC
Clean Harbors Environmental Services, Inc.
Clean Harbors Florida, LLC
Clean Harbors Grassy Mountain, LLC
Clean Harbors Kansas, LLC
Clean Harbors LaPorte, LP
Clean Harbors Laurel, LLC
Clean Harbors Lone Mountain, LLC
Clean Harbors Los Angeles, LLC
Clean Harbors Mercier, Inc.
Clean Harbors of Baltimore, Inc.
Clean Harbors of Braintree, Inc.
Clean Harbors of Connecticut, Inc.
Clean Harbors Pecatonica, LLC
Clean Harbors Plaquemine, LLC
Clean Harbors PPM, LLC
Clean Harbors Quebec, Inc.
Clean Harbors Reidsville, LLC
Clean Harbors San Jose, LLC
Clean Harbors Tennessee, LLC
Clean Harbors Westmorland, LLC
Clean Harbors White Castle, LLC
Crowley Disposal, LLC
Disposal Properties, LLC
GSX Disposal, LLC
Harbor Industrial Services Texas, LP
Hillard Disposal, LLC
Roebuck Disposal, LLC
Sawyer Disposal Services, LLC
Tulsa Disposal, LLC

**APPENDIX B**

**SITE MAPS, DRAWINGS, AND PHOTOGRAPHS**

**CLEAN HARBORS COLFAX, LLC**  
**Part I/II RCRA Permit Drawing List**  
**Appendix B**

<b>Drawing #</b>	<b>Title:</b>
100	Aerial Photograph
101	Aerial Photograph Surrounding Land Use
102	Topographical Map Land Use
103	Topographical Map Facility Layout & Surface Water Flow
104	Topographical Map Well Water Locations
105	Security Equipment & Utility Locations
106	USDA SCS Soils Map
107	Truck Staging & Parking
108	Storage Magazine/Truck Storage Area
109	Storage Magazine-Fence Elevations & Sections
110	Storage Magazine-Section Drawings
111	Preparation Building Floor Plan
112	Preparation Building Foundation plan
113	Preparation Building Detail Sheet
114	Deep Cross Section Location
115	Deep Cross-Section
116	Photograph of Site

**All drawing numbers not used are reserved for future use.**

**APPENDIX C**  
**OTHER PERMITS**

## **Air Permit**



State of Louisiana  
Department of Environmental Quality



M.J. "MIKE" FOSTER, JR.  
GOVERNOR

J. DALE GIVENS  
SECRETARY

NAME CHANGE

FACILITY: Thermal Treatment Facility Incinerator  
PERMIT NO.: 1120-00010-01 (Type of Facility)  
EIS/CDS NO.: 1120-00010 UTM: 15 327.3 3492.7  
LOCATION: Colfax Grant (Zone) (Km E) (Km N)  
3763 Highway 471, Colfax (City) (Parish)  
(Physical Location)

FORMER NAME

COMPANY: Laidlaw Environmental Services, Inc.  
CONTACT: James E. Gallion, Sr. Vice President (318) 627-3443  
MAILING ADDRESS: 3763 Hwy 471 Colfax LA 71417  
(Name) (Title) (Phone)  
(Street or P.O. Box) (City) (State) (Zip Code)

NEW NAME

FACILITY: Safety-Kleen (Colfax), Inc. July 1, 1998  
COMPANY: Safety-Kleen (Colfax), Inc. (Date of Transfer)  
CONTACT: James E. Gallion, Sr. Vice President (318) 627-3443  
MAILING ADDRESS: 3763 Hwy 471 Colfax LA 71417  
(Name) (Title) (Phone)  
(Street or P.O. Box) (City) (State) (Zip Code)

Air Quality Division files will be updated to reflect this change.

*Gustave A. Von Bodungen*

Gustave A. Von Bodungen, P.E.  
Assistant Secretary

9/16/98  
Date

GVB:JBR

c: Southwest Regional Office



recycled paper

OFFICE OF AIR QUALITY P.O. BOX 52135 BATON ROUGE, LOUISIANA 70884-2135

AN EQUAL OPPORTUNITY EMPLOYER



AIR PERMIT BRIEFING SHEET  
AIR QUALITY DIVISION  
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

THERMAL TREATMENT FACILITY  
LAIDLAW ENVIRONMENTAL SERVICES (THERMAL TREATMENT) INC.  
COLFAX, GRANT PARISH, LOUISIANA

**I. BACKGROUND**

R & D Fabricating and Manufacturing, Inc., a division of Laidlaw Environmental Services, Inc. operated a thermal treatment facility for the destruction of a number of different RCRA reactive waste (propellants and explosives) streams under Air Permit No. 1120-00010-00. Ownership was transferred to Laidlaw on June 30, 1995.

**II. ORIGIN**

Laidlaw Environmental Services (Thermal Treatment) Inc. submitted an application and Emission Inventory Questionnaire dated March 8, 1995 for a permit modification. Additional information dated May 16 and June 5, 1995 was also received.

**III. PROJECT DESCRIPTION**

The thermal treatment facility is isolated on 43 acres in a 730 acre site near the junction of Louisiana Highways 71 and 471, with the burn area at least 700 feet from the property line. Colfax the closest town, is 3.5 miles from the site.

Laidlaw thermally treats a large number of different RCRA reactive waste streams at the Colfax facility. Storage of reactive waste is in 10 magazines, one magazine truck staging area, and one truck staging/parking area. Propellants and explosives are treated in 20 circular and square metal trays utilizing diesel fuel or equivalent for ignition. Trays are 4 feet in diameter and 2 foot high or 6 feet square with 8 inch high sides. All trays have an expanded metal cover to contain any fragments. The burn pads are located on a concrete slab 130 X 700 feet that drains to a stormwater retention pond.

Thermal treatment normally lasts approximately 8 minutes. The material is placed in the metal container, diesel fuel added and the fuel is remotely ignited. Waste stream treatment batches vary from approximately 15 to 350 pounds.

Laidlaw proposes to increase the average hourly treatment rate from 30 to 164 pounds per hour and the maximum hourly treatment rate from 164 to 350 pounds per hour. Laidlaw



AIR PERMIT BRIEFING SHEET  
AIR QUALITY DIVISION  
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

THERMAL TREATMENT FACILITY  
LAIDLAW ENVIRONMENTAL SERVICES (THERMAL TREATMENT) INC.  
COLFAX, GRANT PARISH, LOUISIANA

proposes to permit the facility at existing capacity of 480,000 pounds per year and to include emissions inadvertently omitted from the previous permit. The facility was previously permitted at 75% of capacity.

Estimated emissions from the facility in tons per hour are as follows:

Pollutant	Permitted	Proposed	Change
PM <sub>10</sub>	3.9	2.4	- 1.5
SO <sub>2</sub>	< 0.01	-	-< 0.01
NO <sub>x</sub>	8.8	38.9	+ 30.1
CO	2.5	6.8	+ 4.3
VOC	< 0.01	0.16	+ 0.15
HCL	3.4	4.6	+ 1.2

Speciation of VOC in tons per year is as follows:

Benzene	0.069
Toluene	0.081
Ethylbenzene	0.003
Xylenes	0.007

Estimated metal emissions in tons per year are as follows:

Antimony	0.004
Barium	0.004
Cadmium	0.001
Chromium	0.001
Lead	0.06
Nickel	0.008
Zinc	0.007

Estimated maximum annual throughput for quantities greater than 10,000 pounds per year is contained in Table 1.

#### IV. TYPE OF REVIEW

This project was reviewed for compliance with the Louisiana Air Quality Regulations. New Source Performance Standards and NESHAP do not apply.

#### V. PUBLIC NOTICE

Public notice is not required for a minor modification.

## SPECIFIC CONDITIONS

THERMAL TREATMENT FACILITY  
LAIDLAW ENVIRONMENTAL SERVICES (THERMAL TREATMENT), INC.  
COLFAX, GRANT PARISH, LOUISIANA

1. Permittee shall comply with all the regulations of the Hazardous Waste Division.
2. Thermal treatment shall be conducted only between the hours of 8 a.m. and 5 p.m.
3. Burns shall not be conducted if windspeed is above 10 miles per hour.
4. Burns shall be remotely ignited.
5. Burn areas shall be fenced to control ingress and egress by the public. All gates shall be secured with a secure locking device. Warning signs shall be posted around the burn area.
6. Ammonium perchlorate treatment is limited to 30,000 pounds in any 12 month period. Records of daily, monthly and last twelve month treatment quantities shall be maintained on site and available for inspection by the Air Quality Division. Treatment of ammonium perchlorate in excess of 30,000 pounds in any 12 month period is a violation of the permit and must be reported to the Air Quality Division, Enforcement Section. A report showing the quantity of ammonium perchlorate treated for the preceding calendar year shall be submitted to the Air Quality Division by February 15.
7. Permittee shall limit the total hours of operation in any consecutive 12 month period to 2920 hours. Records of the daily, monthly, and last 12 months hours of operation shall be maintained on site and available for inspection by the Air Quality Division. Operating hours above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Air Quality Division, Enforcement Section. A report showing the operating hours for the preceding calendar year shall be submitted to the Air Quality Division by February 15.
8. Permittee shall limit the total quantity of waste treated to 480,000 lbs in any consecutive 12 month period. Records of the monthly and last 12 months quantity treated shall be maintained on site and available for inspection by the Air Quality Division. A report showing the quantity treated for the preceding calendar year shall be submitted to the Air Quality Division by February 15.

TABLE 1  
MAXIMUM ESTIMATED ANNUAL THRUPUT QUANTITIES

THERMAL TREATMENT FACILITY  
LAIDLAW ENVIRONMENTAL SERVICES (THERMAL TREATMENT), INC.  
COLFAX, GRANT PARISH, LOUISIANA

Product	Pounds/year
Air bag initiators	50,000
Ammonium perchlorate	30,000
Ammunition	200,000
Black powder	10,000
RDX	40,000
Detonators/blasting caps	10,000
Flares and flare waste	100,000
High explosives	10,000
HMX	10,000
PETN	10,000
TNT	80,000

LOUISIANA AIR EMISSION PERMIT  
GENERAL CONDITIONS

- I. This permit is issued on the basis of the emissions reported in the application for approval of emissions and in no way guarantees that the design scheme presented will be capable of controlling the emissions to the type and quantities stated. Failure to install, properly operate and/or maintain all proposed control measures and/or equipment as specified in the application and supplemental information shall be considered a violation of the permit and LAC 33:III.501. If the emissions are determined to be greater than those allowed by the permit or if proposed control measures and/or equipment are not installed or do not perform according to design efficiency, an application to modify the permit must be submitted.
- II. The permittee is subject to all applicable provisions of the Louisiana Air Quality Regulations. Violation of the terms and conditions of the permit constitutes a violation of these regulations.
- III. The attached data sheets establish the emission and operating limitations and are a part of the permit. The synopsis and data sheets are based on the application and Emission Inventory Questionnaire dated March 8, 1995. Additional information dated May 16 and June 5, 1995 was also received.
- IV. This permit shall become invalid, for the sources not constructed, if:
  - A. Construction is not commenced, or binding agreements or contractual obligations to undertake a program of construction of the project are not entered into, within two (2) years (18 months for PSD permits) after issuance of this permit, or;
  - B. If construction is discontinued for a period of two (2) years (18 months for PSD permits) or more.

The administrative authority may extend this time period upon a satisfactory showing that an extension is justified.

This provision does not apply to the time period between construction of the approved phases of a phased construction project. However, each phase must commence construction within two (2) years (18 months for PSD permits) of its projected and approved commencement date.
- V. The permittee shall submit semi-annual reports of progress outlining the status of construction, noting any design changes, modifications or alterations in the construction schedule which have or may have an effect on the emission

LOUISIANA AIR EMISSION PERMIT  
GENERAL CONDITIONS

rates or ambient air quality levels. These reports shall continue to be submitted until such time as construction is certified as being complete. Furthermore, for any significant change in the design, prior approval shall be obtained from the Louisiana Air Quality Division.

- .VI. The permittee shall notify the Department of Environmental Quality, Air Quality Division within ten (10) calendar days from the date that construction is certified as complete and the estimated date of start-up of operation. The appropriate Regional Office shall also be so notified within the same time frame.
- VII. Any emissions testing performed for purposes of demonstrating compliance with the limitations set forth in paragraph III shall be conducted in accordance with the methods described in the Division's test manual or any other methods approved by the U.S. EPA. Any deviation from or modification of the methods used for testing shall have prior approval from the Louisiana Air Quality Division.
- VIII. The emission testing described in paragraph VII above, or established in the specific conditions of this permit, shall be conducted within sixty (60) days after achieving normal production rate, but in no event later than 180 days after initial start-up (or restart-up after modification). The Air Quality Division Surveillance Section shall be notified at least (30) days prior to testing and shall be given the opportunity to conduct a pretest meeting and observe the emission testing. The test results shall be submitted to the Air Quality Division within forty-five (45) days after the complete testing. As required by LAC 33:III.913, the permittee shall provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits.
- IX. The permittee shall, within 180 days after start-up of each project or unit, report to the Louisiana Air Quality Division any significant difference in operating emission rates as compared to those limitations specified in paragraph III. This report shall also include, but not be limited to, malfunctions and upsets.
- X. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of at least five (5) years.
- XI. If for any reason the permittee does not comply with, or will not be able to comply with, the emission limitations specified in this permit, the permittee shall provide the

LOUISIANA AIR EMISSION PERMIT  
GENERAL CONDITIONS

Air Quality Division with the following information in writing within five (5) days of such conditions:

- A. Description of noncomplying emission(s);
- B. Cause of noncompliance;
- C. Anticipated time the noncompliance is expected to continue, or, if corrected, the duration of the period of noncompliance;
- D. Steps taken by the permittee to reduce and eliminate the noncomplying emissions; and
- E. Steps taken by the permittee to prevent recurrences of the noncomplying emissions.

XII. Permittee shall allow the authorized officers and employees of the Department of Environmental Quality, at all reasonable times and upon presentation of identification, to:

- A. Enter upon the permittee's premises where regulated facilities are located, regulated activities are conducted or where records required under this permit are kept;
- B. Have access to and copy any records that are required to be kept under the terms and conditions of this permit, the Louisiana Air Quality Regulations, or the Act;
- C. Inspect any facilities, equipment (including monitoring methods and an operation and maintenance inspection), or operations regulated under this permit; and
- D. Sample or monitor, for the purpose of assuring compliance with this permit or as otherwise authorized by the Act or regulations adopted thereunder, any substances or parameters at any location.

XIII. If samples are taken under Section XII.D. above, the officer or employee obtaining such samples shall give the owner, operator or agent in charge a receipt describing the sample obtained. If requested prior to leaving the premises, a portion of each sample equal in volume or weight to the portion retained shall be given to the owner, operator or agent in charge. If an analysis is made of such samples, a copy of the analysis shall be furnished promptly to the owner, operator or agency in charge.

XIV. The permittee shall allow authorized officers and employees of the Department of Environmental Quality, upon presentation of identification, to enter upon the permittee's premises to investigate potential or alleged violations of the Act or the rules and regulations adopted

LOUISIANA AIR EMISSION PERMIT  
GENERAL CONDITIONS

thereunder. In such investigations, the permittee shall be notified at the time entrance is requested of the nature of the suspected violation. Inspections under this subsection shall be limited to the aspects of alleged violations. However, this shall not in any way preclude prosecution of all violations found.

- XV. The permittee shall comply with the reporting requirements specified under LAC 33:III.918 as well as notification requirements specified under LAC 33:III.927.
- XVI. In the event of any change in ownership of the source described in this permit, the permittee and the succeeding owner shall notify the Louisiana Air Quality Division, within ninety (90) days after the event, to amend this permit.
- XVII. Typical emissions associated with routine operations that are under control upon release, that are predictable in nature, and that are quantifiable as described in this permit application, are considered authorized discharges. Any significant deviation from the emissions specified in the permit application for such discharges, by event, shall be reported to the department according to LAC 33:I.3901. Actual emissions resulting from such activities must be reported to the department on an annual basis. These emissions are not reflected in the permit totals as they are short term and/or intermittent in duration and have no significant impact on air quality. Examples of such events include but are not limited to cleaning equipment, startups, shutdowns, opening off-line equipment (dual units), and releases to control devices such as flares or incinerators. This permit condition does not authorize the maintenance of a nuisance or a danger to public health and safety.

# AIR QUALITY DATA SHEET

PAGE 1

## THERMAL TREATMENT FACILITY LAIDLAW ENVIRONMENTAL SERVICES COLFAX, GRANT PARISH, LOUISIANA

Location of plant: 15 UTM: 327.3 Km E 3492.7 Km N

Description of location: 3763 Highway 471 near Colfax

Estimated starting date

Estimated starting operation

of construction

will begin Operating

Type of Dispersion Calculations Used: \_\_\_\_\_

### EFFECTS ON AMBIENT AIR

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Air Quality Standard (NAAQS)
-----------	-------------	--	--

NEW \_\_\_\_\_ OR MODIFIED x EMISSION SOURCES

Thermal Treatment  
(Type of Source)

Emission Point No.	Description	Operating Rate (Max)	Operating Schedule		
			H/D	D/W	W/
001	Thermal Treatment Units	350 lbs/hr Total	8	7	52



AIR QUALITY DATA SHEET  
PAGE 2

THERMAL TREATMENT FACILITY  
LAIDLAW ENVIRONMENTAL SERVICES (THERMAL TREATMENT), INC.  
COLFAX, GRANT PARISH, LOUISIANA

MAXIMUM/AVERAGE EMISSION RATES ARE LISTED IN LB/HR

Emission Point No.	PM-10	SO <sub>2</sub>	Permitted Emissions		CO	OTHER	HEIGHT Feet	TEMP. °F	FLOW RATE CFM
			NO <sub>x</sub>	VOC					
01	3.5/1.7	-	57.0/26.7	0.22/0.16	9.9/4.7	64.8/3.2 HCl	2	NA	NA

AIR QUALITY DATA SHEET  
PAGE 3

THERMAL TREATMENT FACILITY  
LAIDLAW ENVIRONMENTAL SERVICES (THERMAL TREATMENT), INC.  
COLFAX, GRANT PARISH, LOUISIANA

Emission Point No.	TONS PER YEAR					
	PM-10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	OTHER
001	2.4	-	38.9	0.16	6.8	4.6 HCL



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

MAY 23 1995

Mr. Jim Gallion, Vice President  
Laidlaw Environmental Services (Thermal Treatment), Inc.  
P.O. Box 482  
Colfax, LA 71417

Dear Mr. Gallion:

The Environmental Protection Agency (EPA) has completed a technical review of the data and related documents for the Fence Line Ambient Air Monitoring Program dated July 13, 1993.

EPA approved the plan for the Ambient Air Monitoring Program on July 13, 1993. This plan specified the activities necessary to monitor the ambient air for metals at the facility's fenceline. Permit conditions provide for corrective measures if concentrations exceed background.

An Ambient Air Monitoring Report submitted June 28, 1994, described the activities to monitor the ambient air prior to commencement of treatment operations. This report was approved by EPA July 15, 1994.

The Quarterly Monitoring and Status Reports (2-13-95), presents results from the ambient air monitoring study. The report indicates all parameters were below the thresholds established and approved by EPA.

No further monitoring is recommended for Fenceline Ambient Air Quality.

If you have any questions, please contact Bob Sturdivant of my staff at (214) 665-7440).

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Bill Honker, for".

William K. Honker, P.E.  
Chief, RCRA Permits Branch

cc: Mr. Glenn Miller, Assistant Secretary  
Louisiana Department Of Environmental Quality  
Mr. Narendra Dave, Geologist Supervisor  
Louisiana Department Of Environmental Quality



Recycled/Recyclable  
Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber



State of Louisiana  
Department of Environmental Quality



Edwin W. Edwards  
Governor

September 7, 1995

William A. Kucharski  
Secretary

CERTIFIED RETURN RECEIPT REQUESTED (P 662 640 893)

Mr. Jim Gallion, Vice President  
Laidlaw Environmental Services (Thermal Treatment) Inc.  
Post Office Box 482  
Colfax, Louisiana 71417

RE: "Fenceline Ambient Air Quality Monitoring"  
Laidlaw Environmental Services (Thermal Treatment) Inc.  
LAD 981 055 791

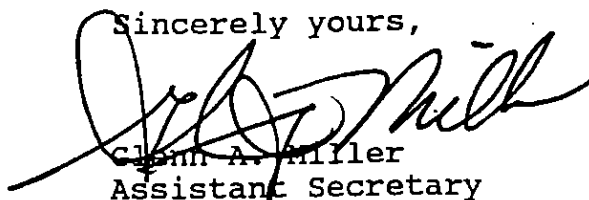
Dear Mr. Gallion:

The Louisiana Department of Environmental Quality-Hazardous Waste Division (LDEQ-HWD) and the U. S. Environmental Protection Agency (EPA) have completed a review of the EPA-approved "Ambient Air Monitoring Report", dated June 28, 1994 and the "Quarterly Monitoring and Status Reports, dated February 13, 1995.

Based upon these reviews, it has been determined that these reports indicate that all parameters were below the thresholds established and approved by EPA. Therefore, the LDEQ-HWD hereby approves discontinuation of Fenceline Ambient Air Quality Monitoring. Should additional data or information indicate legitimate human health or environmental concerns regarding Fenceline Air Quality issues, the administrative authority reserves the right to reconsider the issue of Fenceline Ambient Air Quality Monitoring.

Please contact Mr. Narendra M. Dave, Chief Geologist or Steve Archibald of my staff at (504) 765-0361 with any questions or comments regarding this issue. Thank you for your continued cooperation in this matter.

Sincerely yours,



Glenn A. Miller  
Assistant Secretary

GAM:NMD:SMA

c: Laurie King, EPA-Region 6  
Charles Handrich, HWD-Permits



**Federal NPDES Permit**

U.S. Environmental Protection Agency  
National Pollutant Discharge Elimination System (NPDES)  
STORM WATER GENERAL PERMIT COVERAGE NOTICE

February 14, 1994

Dear Operator:

Your Notice of Intent (NOI) for the facility noted below has been processed by the U.S. Environmental Protection Agency. This facility is authorized to discharge storm water associated with industrial or construction activity under the terms and conditions imposed by EPA's NPDES storm water general permit issued for use in the state of Louisiana. Your facility's NPDES storm water permit number is LAR00B143.

EPA's storm water general permit requires certain storm water pollution prevention and control measures, possible monitoring and reporting, and annual inspections. Among the conditions and requirements of this permit, you must prepare and implement a pollution prevention plan (PPP) that is tailored to your industrial or construction site. Enclosed is a summary guidance document designed to assist you in the development and implementation of your PPP. The summary is organized according to the phases of the pollution prevention planning process. A set of worksheets and an example of a pollution prevention plan are provided for your assistance. As a facility authorized to discharge under this storm water general permit, all terms and conditions must be complied with to maintain coverage and avoid possible penalties.

The information included on your NOI indicated that you are required to submit monitoring data for your facility's storm water discharges. Enclosed is monitoring and reporting guidance to assist you in the preparation of Discharge Monitoring Reports. If you have questions regarding the specific monitoring requirements that apply to your facility, please contact the EPA Regional office with permitting authority for your State. A list of EPA Regional offices with phone numbers and addresses is included at the end of the enclosed guidance.

FACILITY:

Laidlaw Env Svcs (tt) Inc  
Hwy 471  
Colfax, LA 71417-  
313445, 0924300

OPERATOR:

Laidlaw Env Svcs (tt) Inc  
Po Box 482  
Colfax, LA 71417-

If you have general questions concerning the storm water program, or need to obtain a copy of the permit, please call the Storm Water Hotline at (703) 821-4823.

**PERMIT TRANSFER/OWNERSHIP CHANGE DOCUMENTATION**



**State of Louisiana**  
**Department of Environmental Quality**

M.J. "MIKE" FOSTER, JR.  
GOVERNOR

J. DALE GIVENS  
SECRETARY

**VIA FACSIMILE: (781) 794-1770**

August 30, 2002

Mr. William Connors, Esquire  
Director of Compliance & Regulatory Affairs  
CLEAN HARBORS, INC.  
1501 Washington Street  
Braintree, MA 02185

Dear Mr. Connors:

The Louisiana Department of Environmental Quality (LDEQ) gladly acknowledges receipt of Clean Harbor's request for transfer of the permits listed below:

**Transfer of permits from Safety Kleen (Baton Rouge), Inc. to Clean Harbors Baton Rouge, LLC:**

RCRA, No. LAD010395127  
HSWA, No. LAD010395127  
Air (Small Source) Permit No. 2528  
Consolidated Air Permit, No. 0840-00019-01  
Federal NPDES Permit, No. LA0038245  
Ten-Day Transfer, No. LAD981059017  
Post Closure Cells 717, 901, and 902.

**Transfer of Permits from Safety Kleen (Colfax), Inc., to Clean Harbors Colfax, LLC:**

RCRA, No. LAD981055791  
Small Source Air Permit, No. 1120-00010-01  
NPDES Stormwater General Permit, No. LAR00B143

**Transfer of Permits from Safety Kleen (Crowley), Inc. to Crowley Disposal, LLC:**

Air Permit, No. 0040-00037-02  
NPDES Stormwater Permit, No. LA0058637  
Water Discharge Permit, No. WP0191  
Facility Closure  
Site Investigation Plan

OFFICE OF ENVIRONMENTAL SERVICES • P.O. BOX 62135 • BATON ROUGE, LOUISIANA 70884-2135

AN EQUAL OPPORTUNITY EMPLOYER





Mr. William Connors  
August 30, 2002  
Page 2

**Transfer of Permits from Safety Kleen (Plaquemine), Inc., to Clean Harbors Plaquemine, LLC:**

RCRA, No. LAD000778514  
HWSA, No. LAD000778514-OP-1  
Air Permit, No. 1280-0024-01  
No Alternative to Injection Well Disposal

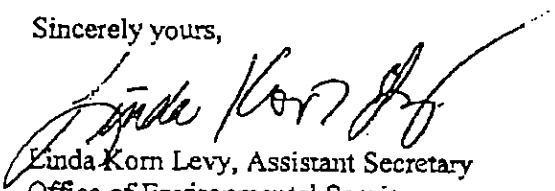
**Transfer of Permits from Safety Kleen (White Castle), Inc., to Clean Harbors White Castle, LLC:**

Solid Waste Permit, No. P-0059  
Air Quality Permit No. 1280-00046-01  
Water Discharge Permit, No. LA0065501

The LDEQ recognizes that Clean Harbors, Inc., has gained approval from the U.S. Bankruptcy Court of the District of Delaware to purchase the substantially all of the assets of the Safety Kleen entities listed above and intends to close on the sale on Friday, August 30, 2002. The closure of the sale is contingent upon Clean Harbors acquiring all of the necessary permits listed above. In preparation for that transfer, Clean Harbors has submitted to the LDEQ all of the necessary documents for LDEQ to complete the transfer of the above listed permits. LDEQ hereby approves the transfer of the permits contingent upon the completion of the sale. Further, LDEQ recognizes that Clean Harbors has provided draft documentation which shows that it will meet the requirements of Louisiana law for the securing of financial assurance on the facilities listed above, should the sale be completed and the financial assurance be the same as represented in the draft documents.

The LDEQ would like to welcome Clean Harbors into Louisiana and looks forward working with your personnel in securing a clean environment for the future citizens of Louisiana.

Sincerely yours,



Linda Korn Levy, Assistant Secretary  
Office of Environmental Services

pint

TOTAL P.03

**APPENDIX D**  
**GEOLOGICAL INFORMATION**



# in Louisiana

Donald A. Stevenson\*  
and Richard P. McCulloh

## Introduction

An earthquake can be defined as a sudden, sometimes violent trembling or shaking of the ground caused by the release of stored energy in the rocks beneath the earth's surface. Underground tectonic forces that are continually applied to brittle rocks tend to deform or bend the rocks slightly. However, when the stress from the forces exceeds the strength of the rocks, they will break suddenly. These sudden movements produce vibrations known as seismic waves that travel through the earth and along its surface. Seismic waves are responsible for the trembling and shaking known as an earthquake.

Earthquakes occur within areas of weakness in the earth's crust, revealed by fractures and faults. A fault is a relatively thin boundary—an essentially planar zone or surface in three dimensions—where rocks rupture to produce two blocks that move in various directions relative to one another (figure 1). Most faults are the product of repeated movement over a long period of time.

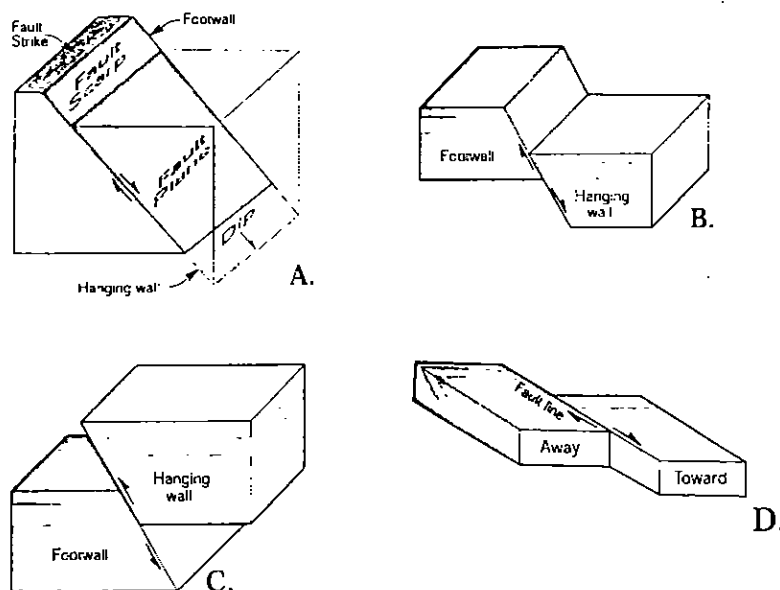


Figure 1. Block diagrams showing fault types and nomenclature. (A) fault nomenclature, (B) normal fault, (C) thrust fault, and (D) strike-slip fault. Compiled from figures 2–5 of Case (1986; used with permission of the Wyoming Geological Survey).

## Types of Faults

If the movement of the blocks is predominantly horizontal relative to the earth's surface, then the fault is called a **strike-slip** fault, owing to the fact that movement is parallel to the strike or direction of the fault trace (Fig. 1-D). When movement of the blocks has a substantial vertical component, the fault is called a **dip-slip** fault (Fig. 1-A,1-B,1-C). Dip-slip faults are further classified by their sense of movement relative to the hanging wall block (above the fault) and footwall block (below the fault) (Fig. 1-B,1-C). If the hanging wall block drops down relative to the footwall block, the fault is a **normal** fault (Fig. 1-B). If the hanging wall block moves up relative to the footwall block, the fault is a **reverse** fault (Fig. 1-C). More often in nature the movement along faults is some combination of strike-slip and dip-slip (normal or reverse). A common type of fault found in Louisiana is a special type of normal fault known as a listric (shovel-shaped) growth fault.

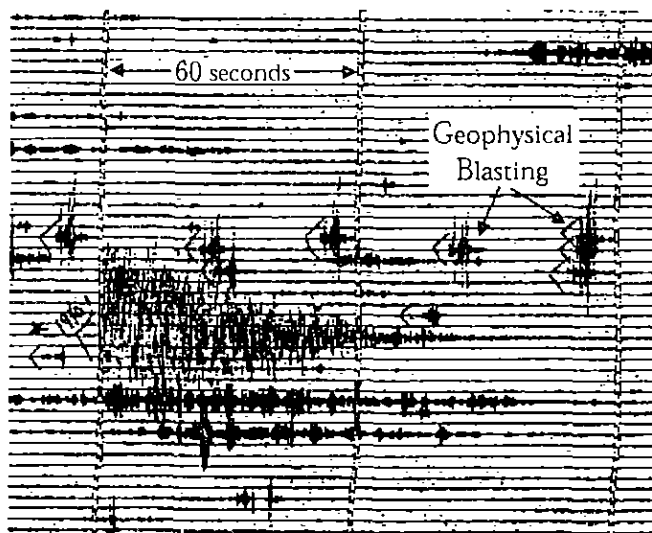
## Measurement of Earthquakes

The size of an earthquake can be expressed by either intensity or magnitude. Magnitude is based on an instrumental recording that is related to energy released by an earthquake, while intensity describes the felt effects<sup>1</sup> of an earthquake.

**Magnitudes:** Earthquakes are recorded on seismographs, which are instruments designed to record ground motions. Seismographs produce permanent records known as seismograms. It is from seismograms recorded on seismographs at different geographic locations that scientists can calculate an earthquake's location and size. Today, the size of an earthquake is most often expressed in terms of a numeric value that is related to the amount of energy released at the earthquake's center. This value is known as the **magnitude** of the earthquake. Magnitude is a logarithmic measure of the earthquake's size. It is an open-ended scale with no top or bottom values. The most famous magnitude scale was developed by Charles Richter in 1935 to measure local magnitudes in California. Using the logarithmic scale, it is based on a standard instrument (seismograph) normalized to account for the separation of the instrument and the earthquake. Every time the magnitude goes up by one unit (say from 4.4 to 5.4), the amplitude of the earthquake waves increases 10 times on a seismogram. The relationship between magnitude and earthquake energy is not exact, but it has been estimated that with each whole step increase in magnitude the associated seismic energy increases about 30 times. For example, the energy generated by a magni-

tude 5.0 earthquake represents energy about 30 times greater than a magnitude 4.0 and 900 times (30x30) larger than a magnitude 3.0 event. Currently, there are many different magnitude scales based on different types of waves produced by an earthquake and recorded on seismographs.

**Intensities:** Historically, before the development of seismographs and magnitude scales, the size of earthquakes was measured using intensity scales. Intensity scales that were developed through the years group earthquake effects into Roman numeral values from I–XII. A number of different intensity scales have been devised over the past century, but the scale generally used in North America and many other countries is the Mercalli Scale as modified by Wood and Neumann in 1931, known today as the Modified Mercalli Intensity Scale (MMI). Table 1 presents a version of this scale. Using this intensity scale, it is possible to summarize the relative severity of the felt effects of an earthquake by constructing maps of the affected region divided into areas of equal intensity. These maps are known as isoseismal maps. It was—and still is in some cases—through the construction of isoseismal maps that the epicenter (earthquake's center) can be located at or near centers of areas experiencing the highest ground-shaking intensity. However, there can be considerable uncertainty in locating the epicenters utilizing this method because it depends heavily upon population density of the region in which the earthquake occurred. The information chronicled here on earthquakes in Louisiana consists mostly of intensity data.



*Sample record showing the Lake Charles earthquake of October 16, 1983. The magnitude was estimated to be approximately 3.8. The recording station was located 11 km (7 miles) from the epicenter. Other marked signals are geophysical blasts. The regularly spaced rectangular marks are minute marks.*

<sup>1</sup>"Felt effects" refers to effects felt or otherwise observed by people; "felt events" refers to seismic events felt by people.

Table 1.

### Modified Mercalli Intensity Scale of 1931 (abridged)

- I. Not felt except by a very few under especially favorable circumstances.
- II. Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
- III. Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing vehicles may rock slightly. Vibration like passing of truck. Duration estimated.
- IV. Felt indoors by many during the day, outdoors by few. At night, some persons are awakened. Dishes, windows and doors are disturbed; walls make cracking sound. Sensation like heavy truck striking building; standing vehicles are rocked noticeably.
- V. Felt by nearly everyone; many awakened. Some dishes, windows, etc. broken; a few instances of cracked plaster; unstable objects overturned. Disturbance of trees, poles and other tall objects sometimes noticed. Pendulum clocks may stop.
- VI. Felt by all; many persons are frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.
- VII. Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate damage in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving vehicles.
- VIII. Damage slight in specially designed structures; considerable damage in ordinary substantial buildings; with partial collapse; extensive damage in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments and walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water levels (?). Disturbs persons driving vehicles.
- IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; extensive damage in substantial buildings with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
- X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable along river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.
- XI. Few, if any masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.
- XII. Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects are thrown upward into the air.

Source: Wood and Neumann (1931)

objects swung, walls and houses creaked, and trees and bushes were shaken

## Louisiana Faults and Earthquakes

Louisiana lies within the geologic tectonic province known as the Gulf Coast Basin. It is within this deep basin that basement rock structures are covered by thick sedimentary rocks. Typical geologic structures of this province are generally characterized by southerly dipping and thickening sedimentary strata disrupted by salt domes and regional systems of relatively shallow listric growth faults (normal faults). These fault systems trend for considerable distances, roughly paralleling the Louisiana coastline. The major fault systems occurring in Louisiana are presented in figure 2. Those in south Louisiana are growth faults thought to have originally formed during periods of accelerated basin subsidence; mechanisms invoked to explain their formation have included overloading in areas of voluminous sedimentation, differential compaction of deposited sediments, abnormally high fluid pressure, and gravity sliding.

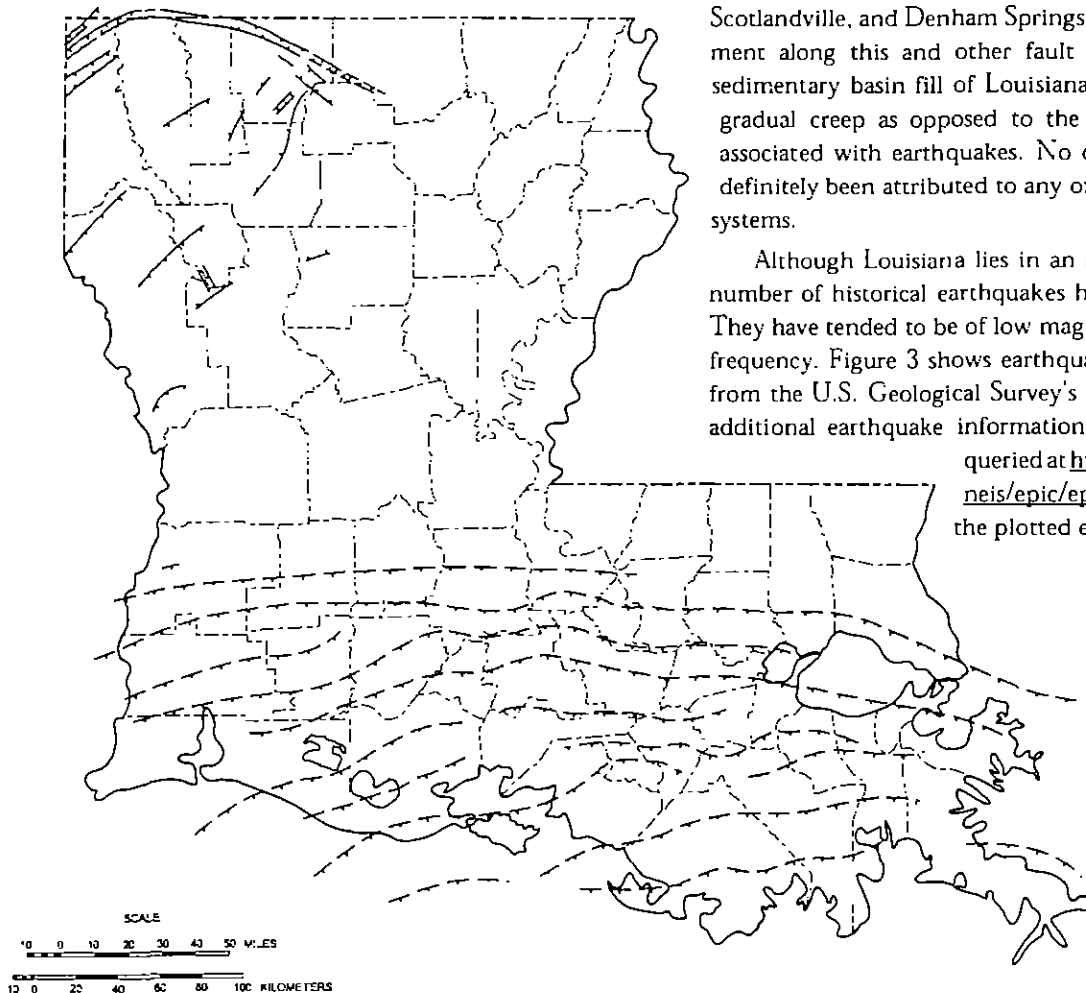


Figure 2. Generalized subsurface faults in Louisiana. North Louisiana faults are from Gulf Coast Association of Geological Societies and American Association of Petroleum Geologists (1972; used with permission). The dashed lines in south Louisiana, rather than representing discrete faults, mark the approximate northernmost edges of different zones of growth faults having different ages of formation (from Murray 1961; used with permission of the author).

Active movement within most of these fault zones is thought to have occurred during periods of rapid localized sediment deposition, mostly during periods of geologic time known as the Miocene and Oligocene epochs (approximately 5 to 36 million years ago). Some, perhaps most, are again active following reactivation in the recent geologic past. It should be noted that none of the faults in north Louisiana are known to be active.

Evidence of the existence of most of the faults in south Louisiana was originally provided by data gathered from many years of underground oil exploration. Only a few were considered active and traceable along the ground until recently, when subtle escarpments were mapped over much of southwestern Louisiana and shown to be similar in character to those associated with the well-known faults of the Baton Rouge system in southeastern Louisiana. Contemporary evidence of movement along this system has been documented by cracking of buildings and pavements that straddle fault traces in Baton Rouge, Scotlandville, and Denham Springs. So far as is known, movement along this and other fault systems within the thick sedimentary basin fill of Louisiana is related to a process of gradual creep as opposed to the sudden breaking of rock associated with earthquakes. No detected earthquakes have definitely been attributed to any of the specific mapped fault systems.

Although Louisiana lies in an area of low seismic risk, a number of historical earthquakes have occurred in our state. They have tended to be of low magnitude and occur with low frequency. Figure 3 shows earthquake locations in Louisiana from the U.S. Geological Survey's historical record (this and additional earthquake information is accessible and can be queried at [http://www.neic.cr.usgs.gov/neis/epic/epic\\_rect.html](http://www.neic.cr.usgs.gov/neis/epic/epic_rect.html)). Table 2 lists the plotted earthquakes.

Table 2.

**Felt earthquakes in and around Louisiana**

Event	Year	Month	Day	Orig Time (UTC)	Lat	Long	Depth (km)	Mag
1	1843	2	14		30.00	-90.00		
2	1843	2	15		30.00	-90.00		
3	1882	4	12	05:00	30.00	-90.00		
4	1886	1	22	16:38	30.40	-92.00		
5	1905	2	3		30.50	-91.10		
6	1927	12	15	04:30	29.00	-89.40		3.9
7	1929	7	28	17:00	29.00	-89.40		3.8
8	1930	10	19	12:17	30.00	-91.00		4.2
9	1940	12	2	16:16	33.00	-94.00		
10	1941	6	28	18:30	32.40	-90.90		
11	1947	9	20	21:30	31.90	-92.70		
12	1958	11	6	23:08	30.00	-90.00		
13	1958	11	19	18:15	30.30	-91.10		
14	1959	10	15	15:45	29.60	-93.10		3.8
15	1964	4	24	01:20:54.2	31.38	-93.81	1	3.7
16	1964	4	24	03:36:18	31.30	-93.80		2.6
17	1964	4	24	07:33:51.9	31.42	-93.81	5	3.7
18	1964	4	24	07:47:17.1	31.38	-93.80	5	3.2
19	1964	4	24	07:50:56.0	31.30	-93.80		2.6
20	1964	4	24	12:07:08.2	31.48	-93.79	9	3.2
21	1964	4	24	12:54:17.0	31.30	-93.80		2.9
22	1964	4	24	17:22:13.0	31.30	-93.80		2.8
23	1964	4	24	23:03:50.0	31.30	-93.80		2.6
24	1964	4	25	03:23:08.0	31.30	-93.80		2.6
25	1964	4	25	04:05:33.0	31.30	-93.80		2.9
26	1964	4	25	06:02:33.0	31.30	-93.80		2.9
27	1964	4	26	02:35:24.0	31.30	-93.80		2.7
28	1964	4	26	03:24:50.2	31.55	-93.78	5	3.3
29	1964	4	27	21:50:27.0	31.30	-93.80		3.2
30	1964	4	28	00:24:07.0	31.30	-93.80		3.1
31	1964	4	28	00:30:45.7	31.40	-93.82	6	3.4
32	1964	4	28	21:18:35.0	31.30	-93.80		4.4
33	1964	4	28	21:18:41.0	31.63	-93.80	14	4.4
34	1964	4	30	20:30	31.50	-93.80		3.0
35	1964	5	2	06:34:54.0	31.30	-93.80		3.3
36	1964	5	3	03:24:12.0	31.30	-93.80		3.0
37	1964	5	7	20:10	31.50	-93.80		3.2
38	1964	8	16	11:35:31.0	31.40	-93.80		2.9
39	1964	8	19	23:58:55.0	31.30	-93.80	2.7	
40	1981	2	13	02:15	30.00	-91.80		
41	1981	2	18	06:33:48.2	29.56	-91.46	5	3.0
42	1983	10	16	19:40:50.8	30.24	-93.39	5 <sup>2</sup>	3.8
43	1994	6	10	23:34:02.9	33.01	-92.67	5	3.2

<sup>2</sup> Hypocenter reported by the U.S. Geological Survey, National Earthquake Information Center, based on regional data; Stevenson and Agnew (1988) reported a hypocenter of 14km based on local data.

The Donaldsonville, Louisiana, earthquake of October 19, 1930 (event #8), is the largest earthquake to have occurred in Louisiana, with a MM intensity of VI. Other historical felt events include the Catahoula, Louisiana, earthquake of May 7, 1842; the New Orleans earthquake of November 6, 1958 (event #12); and the Baton Rouge earthquake of November 19, 1958 (event #13). The epicentral MM Intensities of these three earthquakes were III-IV, IV, and V, respectively. Following is a discussion of the effects of some of the significant earthquakes felt or observed in Louisiana. The numbers in parentheses refer to selected numbered event locations on figure 3 and in table 2. Various sources were used to compile this information: Fuller (1912), unpublished studies by Gulf States Utilities in connection with licensing of the River Bend Nuclear power plant, *Earthquake History of the United States* (Coffman, von Hake, and Stover, 1982), Nuttli (1973), Nuttli (1982), and newspaper articles of the time as noted.

**May 7, 1842:** The epicenter of this MM Intensity III-IV earthquake was lightly felt for a duration of 2 to 3 seconds over a 1,350-square-mile area in the Gulf Coast Basin southwest of Baton Rouge, near the town of Catahoula. Fluctuations were noted in the water level of a lake located east of Catahoula and along the banks of Bayou Teche. The earthquake was also felt at St. Martinville, and Opelousas (Daily Picayune, New Orleans, La., May 9, 1842). This first felt event does not appear in table 2 or on the location map (figure 3): the epicenter may not have been sufficiently well defined to locate it.

**October 19, 1930 (#8):** The epicenter of this MM Intensity VI earthquake was located near Donaldsonville, Louisiana. The closest seismograph stations at Loyola University in New Orleans and at Spring Hill College in Mobile, Alabama, were inoperative at the time of this earthquake, making it impossible to determine the epicenter from instrumental data. The earthquake was strong enough to be recorded on the seismograph at Georgetown University in Washington, D.C.

Intensity data indicated that the earthquake was felt over a 15,000-square-mile area of southeastern Louisiana. An MM Intensity VI was assigned, based upon scattered instances of damage within the MM Intensity V-VI area. At Napoleonville, chimneys were damaged and windows broken; at White Castle, plaster cracked and small objects were overturned; at Gonzales and Donaldsonville, "brick chimneys of several residences were

damaged, some being cracked almost from the top to bottom while parts of others, above the roof, were knocked down" (The Donaldsonville Chief, Donaldsonville, Louisiana, November 1930).

Other towns to experience MM Intensity V effects included Morgan City, Elemans, Franklin, Berwick, and Plaquemine, where small objects were overturned, doors and windows rattled, pictures fell, hanging objects swung, walls and houses creaked, and trees and bushes were shaken. In New Orleans, this earthquake caused floors and beds to rock for 6 to 15 seconds. "In some instances, beds were rolled two or three feet, causing their occupants to awaken startled, pictures to loosen from walls, dishes to rattle, and house foundations to creak loudly" (Times Picayune, New Orleans, Louisiana, October 20, 1930). The earthquake was also felt by many people in the Baton Rouge area as a brief undulating or rolling motion that shook walls, lights, and windows (Baton Rouge Morning Advocate, October 20, 1930).

**November 6, 1958 (#12):** This MM Intensity IV earthquake was confined to an area within a five- to seven-mile radius of downtown New Orleans, extending from Lake Pontchartrain on the north to Gretna on the south and from Harahan on the west to Arabi on the east. The earthquake was recorded as a 15 second vibration on the seismographs at Loyola University in New Orleans. The assigned MM Intensity IV is based on reports of maximum effects as windows shook and doors rattled (Times Picayune, New Orleans, November 8, 1958, and New Orleans States and Items, November 7, 1958).

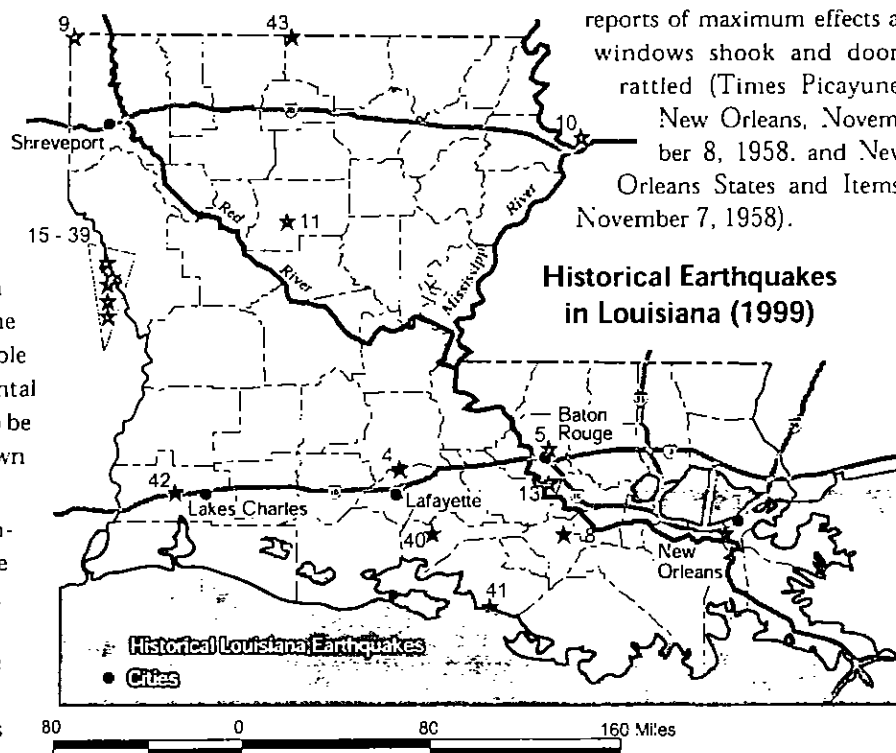


Figure 3. Historical felt earthquake locations in and around Louisiana, from the U.S. Geological Survey's historical record ([http://www.neic.cr.usgs.gov/neis/epic/epic\\_rect.html](http://www.neic.cr.usgs.gov/neis/epic/epic_rect.html)).



**November 19, 1958 (#13):** This earthquake with an MM Intensity V was reported felt in Baton Rouge, Baker, and Denham Springs. The estimated 10 second period of felt vibration was not immediately recognized as an earthquake; many thought it was an explosion or sonic boom (Baton Rouge Morning Advocate, Baton Rouge, November 20, 1958).

**October 15, 1959 (#14):** This earthquake of MM Intensity IV was felt over approximately 3,000 square miles in southwestern Louisiana, extending from Cameron on the southwest to DeQuincy on the north to Lake Arthur on the east. Maximum effects were noted at Creole and Grand Chenier on the southern Louisiana coast, where objects and windows rattled.

**April 24, 1964 to August 16, 1964 (#15-39):** Within this time span, a series of earthquakes occurred mostly in Texas near the Texas-Louisiana border, generally between the Toledo Bend Reservoir and the Sam Rayburn Reservoir. Epicentral MM Intensities ranged from IV to VI, and body-wave Magnitudes ranged from 3.0 to 4.0. These earthquakes were felt over small areas, and the epicenters appear to have been shallow, less than 5 kilometers deep. At the time of these events, the Sam Rayburn Reservoir was being filled, and the Toledo Bend Dam was being constructed. A deployment of portable seismograph instrumentation from July to September 1964 recorded more than 70 micro-earthquakes. Events 16-40 plotted on figure 3 and listed in Table 2 represent the best-located of the series. Earthquake activity in this area abruptly decreased in frequency, intensity, and magnitude after the three-month period, with the last reported event occurring on August 19, 1964. No local earthquakes were recorded after September 1964 (Henley 1965).

**October 16, 1983 (#42):** The only earthquake in Louisiana to be recorded and located by locally deployed instruments is the Lake Charles earthquake of 1983. This is described in a paper in the Bulletin of the Seismological Society of America (1988) by D. A. Stevenson and J. D. Agnew. The authors infer that a deep-seated ("basement") fault was responsible for this earthquake, but the depth (14+ kilometers) precludes detailed knowledge of the specific fault; the main point made by the authors is that such a fault could be controlling the placement and activity of shallower "growth" faults in the thick sediments overlying the crystalline basement. Not one of the earthquakes that has occurred in Louisiana has been attributed to any specific fault. This is in large part because of the paucity of seismograph stations located in the state.

## Large Historical Earthquakes Felt in Louisiana

**New Madrid, Missouri, 1811-1812:** On December 16, 1811, at 2:15 a.m. (local time), a major earthquake shook the Central United States and much of the Eastern United States. It was the first in a series of strong events that continued through the spring of 1812 and then for more than 5 years after that at

a reduced frequency and intensity. An isoseismal map prepared by Otto Nuttli (1973) indicates that MM Intensities V-VI were most likely experienced by persons living in the northern half of Louisiana, with MM Intensities of III-IV experienced by people in the southern half of the state. No reports have been found of the effects of these events on the northern areas of Louisiana. However, a letter published in the Natchez Weekly Chronicle offers an account of the effects of these earthquakes at Natchez, Mississippi, across the river from our state. The letter dated December 18, 1811, states:

---

*Several clocks stopped at two or at about 10 minutes after. Several articles were thrown off the shelves; crockery was sent rolling about the floor, articles suspended from the ceiling of stores vibrated rapidly without any air to disturb them for about nine inches; the plastering in the rooms of some houses was cracked and injured.*

---

The largest of the series of events occurred on February 7, 1812, and was apparently felt in New Orleans and reported as a slow oscillatory motion, rather than as a strong shaking (Moniteur de la Louisiane, February 11, 1812).

Today, the New Madrid seismic zone remains the area most likely to produce earthquakes that could affect Louisiana. This is primarily due to the combination of proximity of the seismic zone to the state, frequency of recorded seismic events, and great magnitude of some of the historic seismic events. The effects would, of course, depend upon the magnitude of the earthquakes originating from that region. An investigation of the potential for transmittal of seismic energy (and risk) from the New Madrid seismic zone along wrench faults (ancient zones of crustal weakness formed during the separation of continents) into Louisiana was addressed in an LGS open-file report (Meloy and Zimmerman 1997). This report concluded that the presence of the wrench faults does not *increase* the seismic risk to Louisiana from the New Madrid seismic zone.

**March 27, 1964:** The Prince William Sound, Alaska, earthquake, magnitude 8.3, was not felt in Louisiana. However, there were reports of long-period surface waves which set up seiches or periodic oscillations of the surface of closed bodies of water in the Gulf Coast region. The effects of the seiches were noticed in the rivers and bayous of the New Orleans area, where considerable damage was done to many boats and barges, which slammed against piers or were torn from their moorings. Most accounts indicate that water oscillations had a peak-to-peak amplitude of approximately 6 feet, with a period of oscillation on the order of 5 seconds. The Arnette River, east of Baton

Rouge, had peak-to-peak oscillations on the order of 4 feet for a duration of 20 minutes. In Baton Rouge, the water in swimming pools, including the pool on the fourth floor of the Capitol House Hotel, was disturbed. Water disturbances "were not particularly noticeable" along the Mississippi River (Baton Rouge Morning Advocate, March 28, 1964).

## Conclusion

Although Louisiana is not seismically active, it is evident from the historical record that small earthquakes occasionally do occur here. The U.S. Geological Survey has an ongoing project called the National Seismic Hazard Mapping Project. Their web site (<http://geohazards.cr.usgs.gov/eq/html/ceusmap.shtml>) has many interesting maps describing seismic hazards throughout the United States. This USGS site is where seismic hazard maps can be viewed for sections of the country, including Louisiana. The New Madrid seismic zone is the area most likely to produce earthquakes that could affect Louisiana. Other more immediate geologic faulting hazards in Louisiana are associated with growth faults. Many of the growth faults, located primarily in the southern portion of the state, show movement as a gradual form of fault creep rather than in conjunction with detectable earthquakes. These faults pose a threat more to property than life. The Baton Rouge fault system is an excellent example of this phenomenon, and experience with the damage it has caused exemplifies the notion that cautious planning in areas where known growth faults intersect the land surface is advisable.

## For More Information

[http://www.neic.cr.usgs.gov/neis/epic/epic\\_rect.html](http://www.neic.cr.usgs.gov/neis/epic/epic_rect.html)

<http://geohazards.cr.usgs.gov/eq/html/ceusmap.shtml>

<http://www.udel.edu/dgs/webpubl.html>

(This URL is for the *Web Publications* website of the Delaware Geological Survey; click on the SP 23, Earthquake Basics link for an article of that title by Stefanie Baxter in pdf format.)

## References, Sources, and Additional Information

- Case, J. C. 1986. Earthquakes and related geologic hazards in Wyoming. Information circular no. 26. Laramie: Wyoming Geological Survey:2-3.
- Coffman, J. L., C. A. von Hake, and C. W. Stover (eds) 1982. Earthquake history of the United States. Washington, D.C.: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, and U.S. Department of the Interior, Geological Survey. 208 pp.
- Fuller, M. L. 1912. The New Madrid earthquake. U.S. Geological Survey Bulletin 494. Washington, D.C.: U.S. GPO. 119 pp.
- Gulf Coast Association of Geological Societies and American Association of Petroleum Geologists 1972. Tectonic map of the Gulf Coast region U.S.A. Scale 1:1,000,000.
- Heinrich, P. V. 1997. Pleistocene fault-line scarps and neotectonics in southwest Louisiana. Geological Society of America Abstracts with Programs 29(3):23.
- Henley, A. D. 1965. Seismic activity near the Texas Gulf Coast. National Convention. Denver, Colorado: Association of Engineering Geologists.
- Meloy, D. U., and R. K. Zimmerman 1997. Potential seismic risk associated with Louisiana wrench faulting. Open-file series no. 97-01. Baton Rouge: Louisiana Geological Survey. 38 pp.
- Murray, G. E. 1961. Geology of the Atlantic and Gulf coastal province of North America. New York: Harper & Brothers. 692 pp.
- Nuttli, O. W. 1973. The Mississippi Valley earthquakes of 1811 and 1812—intensities, ground motion, and magnitudes. Bulletin of the Seismological Society of America 68:227-248.
- Nuttli, O. W. 1982. Damaging earthquakes of the central Mississippi valley. In Investigations of the New Madrid, Missouri, Earthquake Region. U.S. Geological Survey Professional Paper 1236. Washington, D.C.: U.S. GPO:15-20.
- Stevenson, D. A., and J. D. Agnew 1988. Lake Charles, Louisiana, earthquake of 16 October 1983. Bulletin of the Seismological Society of America 78(4):1463-1474.
- Stover, C. W., B. G. Reagor, and S. T. Algermissen 1979. Seismicity map of the state of Louisiana. U.S. Geological Survey Map MF-1081. Reston, Virginia: U.S. GPO. Scale 1:1,000,000.
- Wood, H.O., and F. Neumann 1931. Modified Mercalli intensity scale of 1931. Bulletin of the Seismological Society of America 21:277-283.

Louisiana Geological Survey  
Clacko John, Director & State Geologist  
Graphic Design: Lisa Pond  
Editor: Scott Smiley

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## **APPENDIX E**

### **FIGURES**

## Reference Sheet



\*REF+157360\*

## Reference Sheet



\*REF+157361\*

## Reference Sheet



\*REF+157362\*

## Reference Sheet



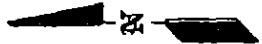
\*REF+157363\*

## Reference Sheet



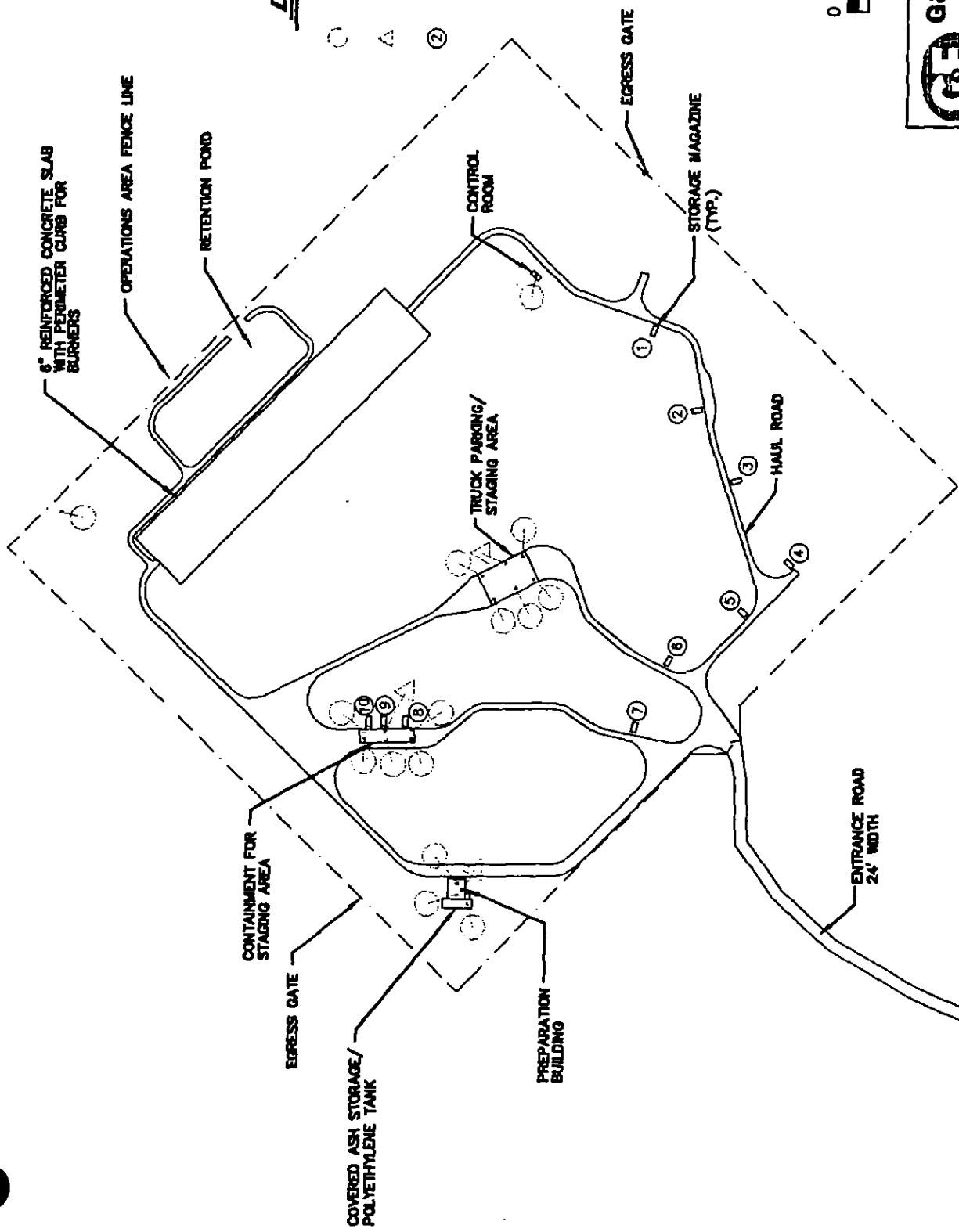
\*REF+157369\*





**LEGEND**

- FIRE EXTINGUISHER
- △ EMERGENCY EYEWASH/  
SHOWER STATION
- ② MAGAZINE NUMBER



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A DIVISION OF **THE G&E GROUP**  
ENVIRONMENTAL CONSULTANTS

**SECURITY AND  
EMERGENCY EQUIPMENT  
LOCATIONS**

Drawing  
# 105

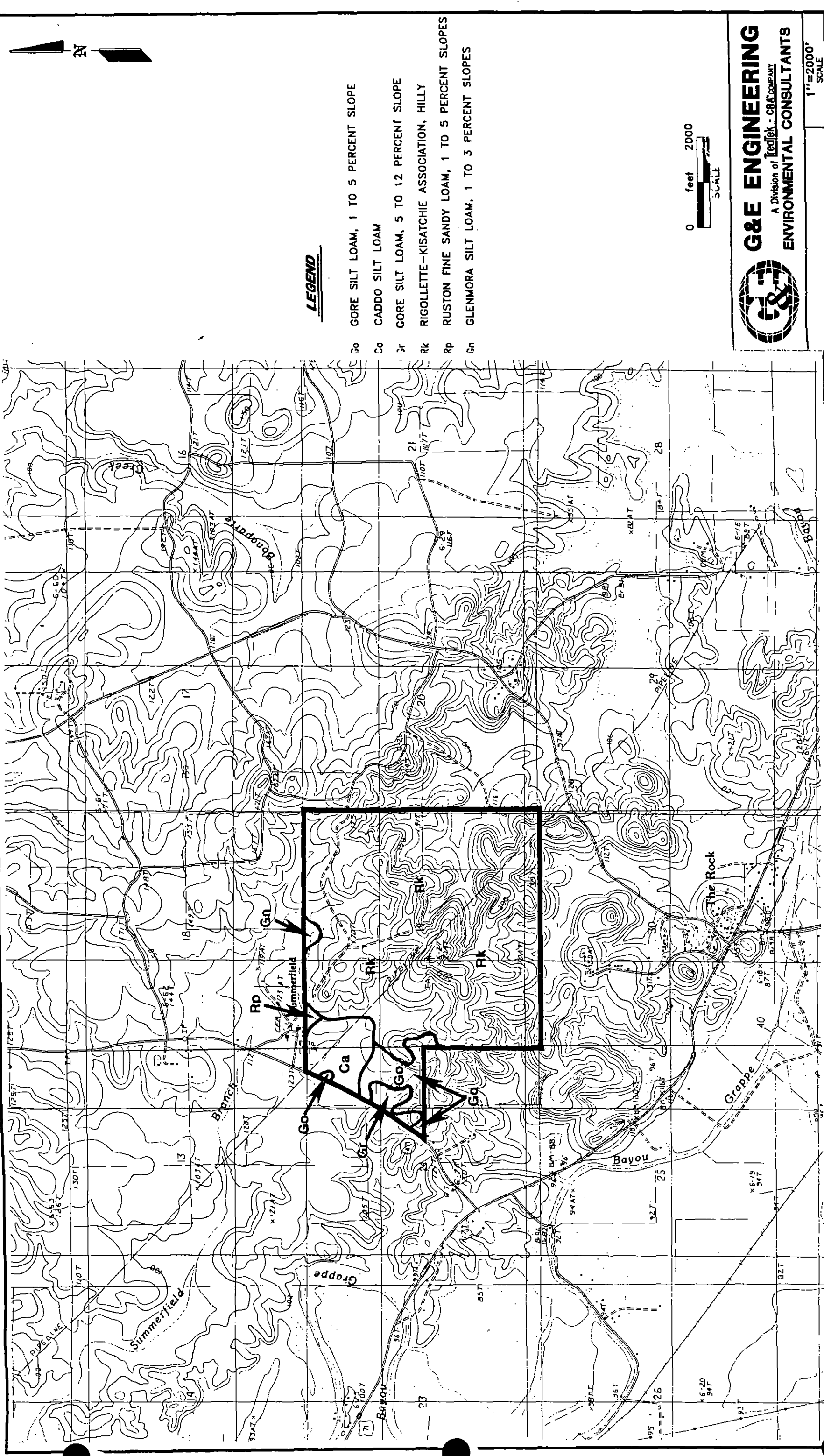
RE: VIROGROUP, DRAWING No. 3082501, DATED FEBRUARY 1995.

**CleanHarbors**  
ENVIRONMENTAL SERVICES, INC.

Clean Harbors Colfax, LLC  
Colfax, Louisiana

Drawing # 105

03/25/97	0	24216-00-A1	
Date	Rev. No.	Drawing No.	
WPS	T8		
Drawn by	Checked By	Approved By	



**LEGEND**

- Go GORE SILT LOAM, 1 TO 5 PERCENT SLOPE
- Ca CADDO SILT LOAM
- Gr GORE SILT LOAM, 5 TO 12 PERCENT SLOPE
- Rk RIGOLLETTE-KISATCHIE ASSOCIATION, HILLY
- Rp RUSTON FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES
- Gn GLENMORA SILT LOAM, 1 TO 3 PERCENT SLOPES



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**USDA-SCS  
SOILS MAP**

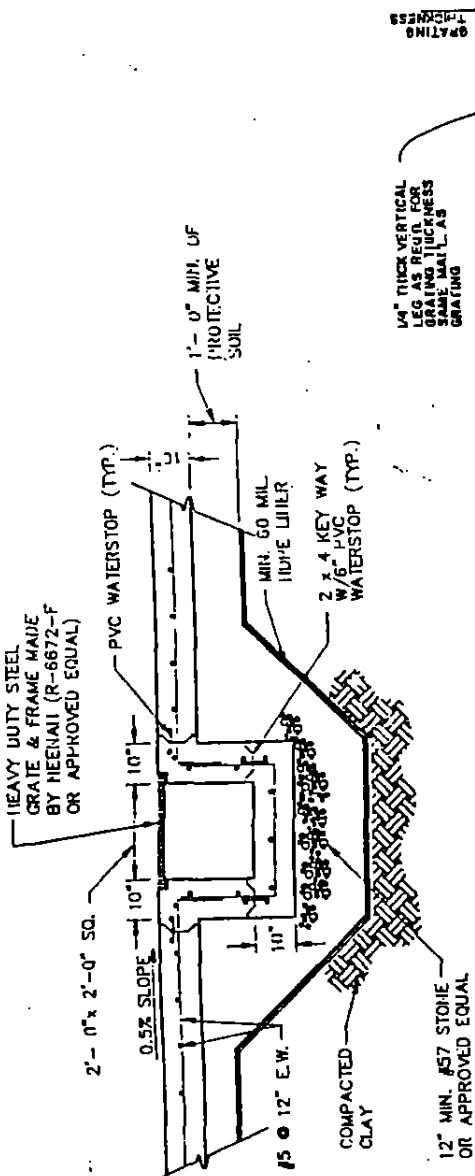
1"=2000' SCALE	24216-00-B7 DRAWING No.	0 REV.
Drawing # 106		

**CleanHarbors**  
ENVIRONMENTAL SERVICES, INC.  
Drawing # 106

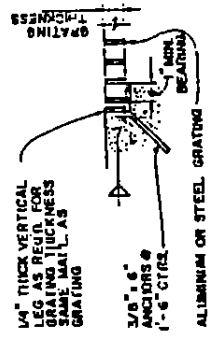
Clean Harbors Colfax, LLC  
Colfax, Louisiana

DESIGNED BY: WP. SMITH	05/15/97
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	

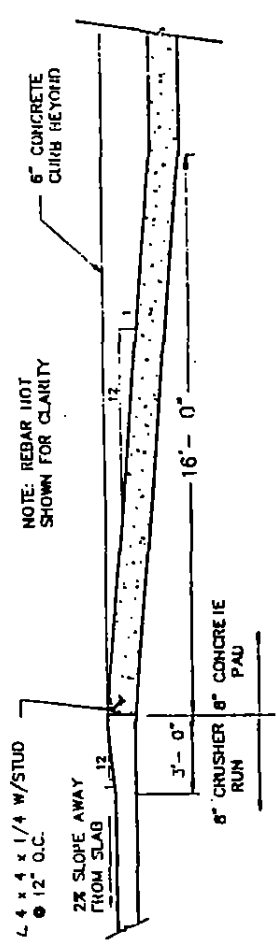
DATE	NO.	REVISION



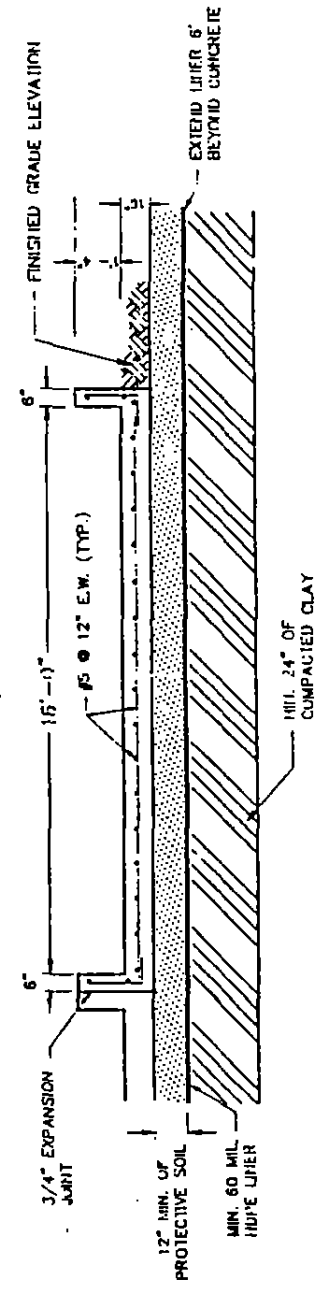
TYPICAL SECTION OF SUMP  
SECTION C-C  
SCALE: 1/4" = 1'-0"



GRADING SUPPORT DETAIL  
NTS

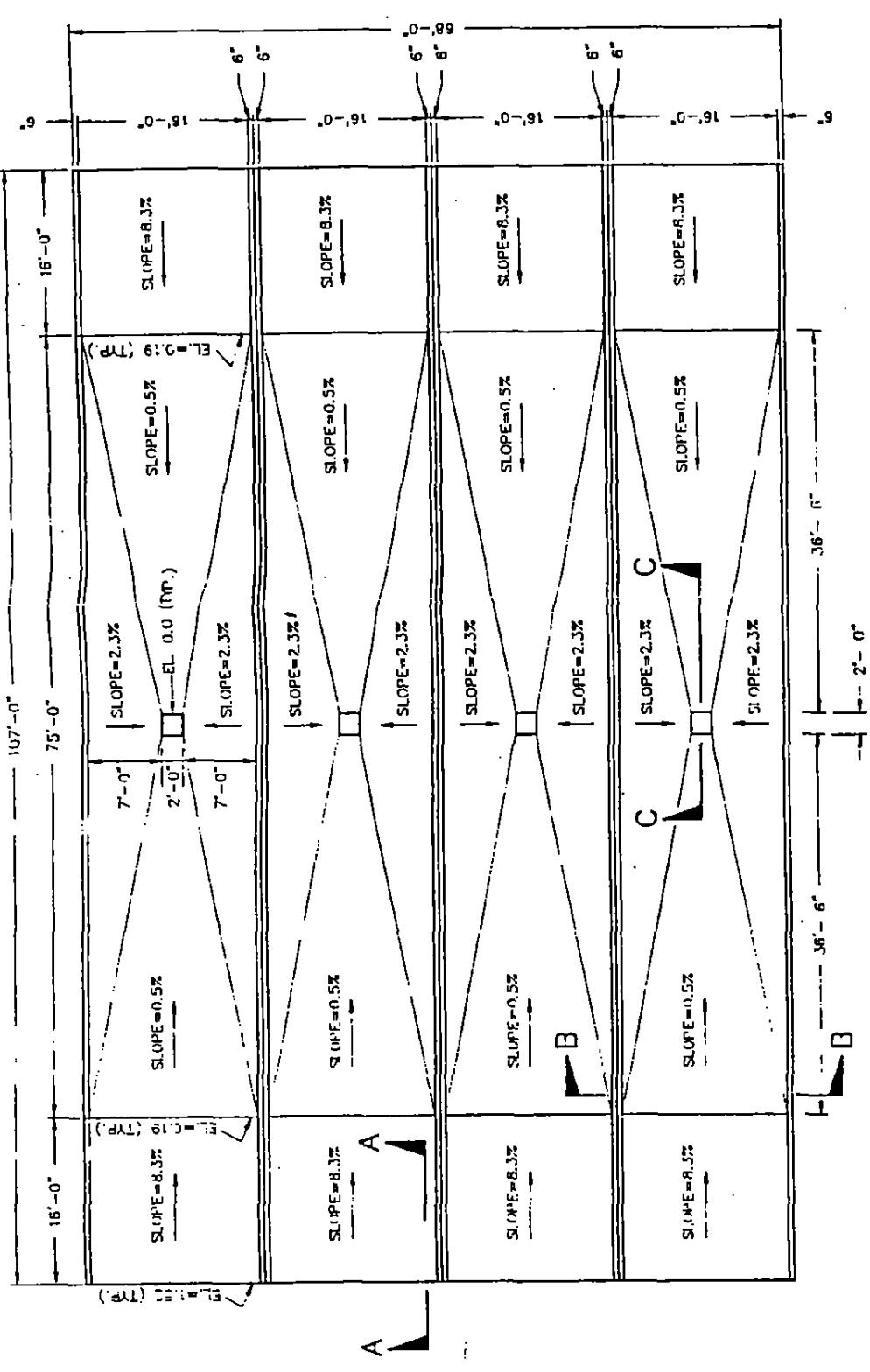


SECTION A-A  
SCALE: 3/16" = 1'-0"



SECTION B-B  
SCALE: 3/16" = 1'-0"

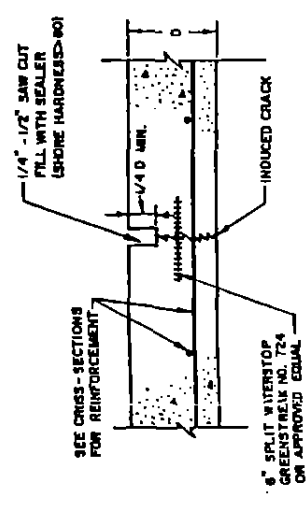
NOTE: ALL STRUCTURES TO BE CONSTRUCTED ABOVE GRADE



TRUCK PARKING/STAGING AREA  
SCALE: 1/8" = 1'-0"

NOTE: TRUCK PARKING/STAGING AREA COVER WILL BE DESIGNED BY OTHERS WITH MIN. CLEARANCE OF 14 FT.

- GENERAL NOTES:
- Concrete shall have a minimum compressive strength of 28 days.
  - Reinforcing steel shall be ASTM A 63 grade 60, welded wire fabric shall conform to ASTM A 185.
  - Reinforcing steel shall be ASTM A 63 grade 60, welded wire fabric shall conform to ASTM A 185.
  - Reinforcing steel shall be ASTM A 63 grade 60, welded wire fabric shall conform to ASTM A 185.
  - Reinforcing steel shall be ASTM A 63 grade 60, welded wire fabric shall conform to ASTM A 185.



TYPICAL CONTROL JOINT DETAIL  
NTS

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AS SHOWN SCALE	
24216-01	0
JOB No.	REV
Drawing # 107	

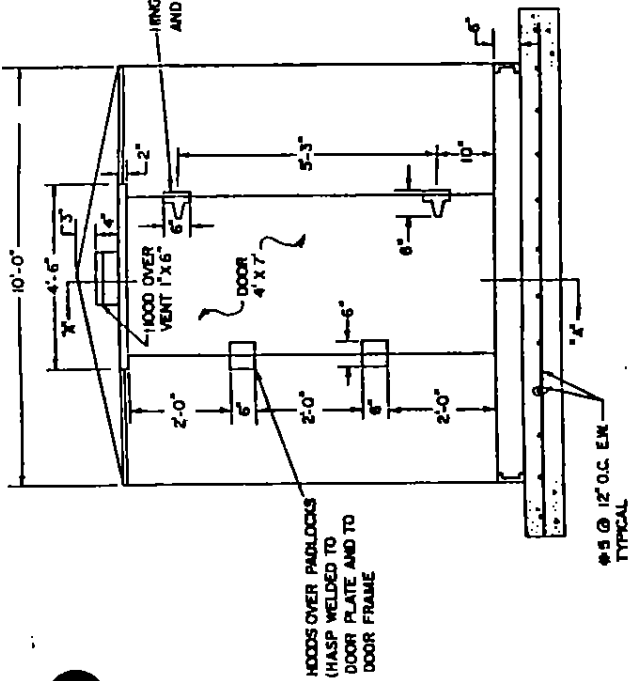
**Clean Harbors**  
ENVIRONMENTAL SERVICES, INC.  
Drawing # 107

DATE	NO.	REVISION	BY	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
					LD. MATTERS		

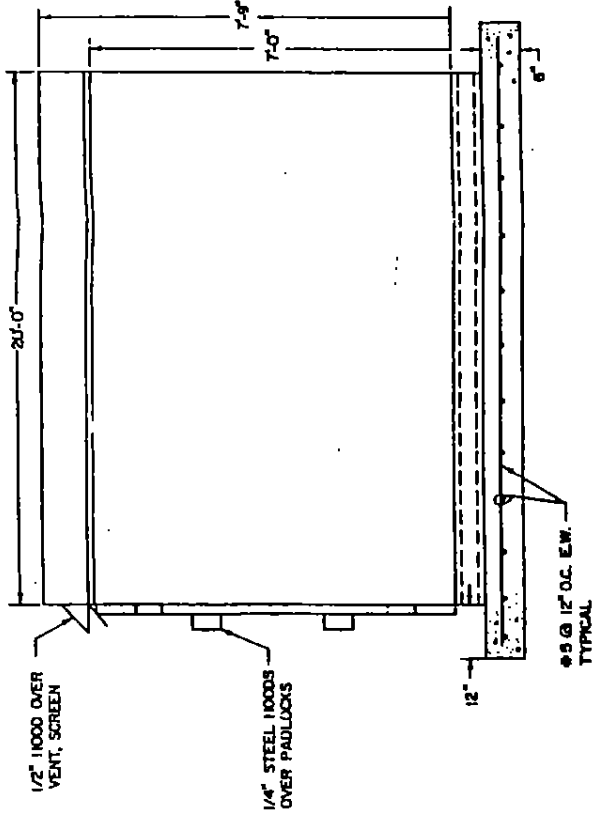
Clean Harbors Colfax, LLC  
Colfax, Louisiana



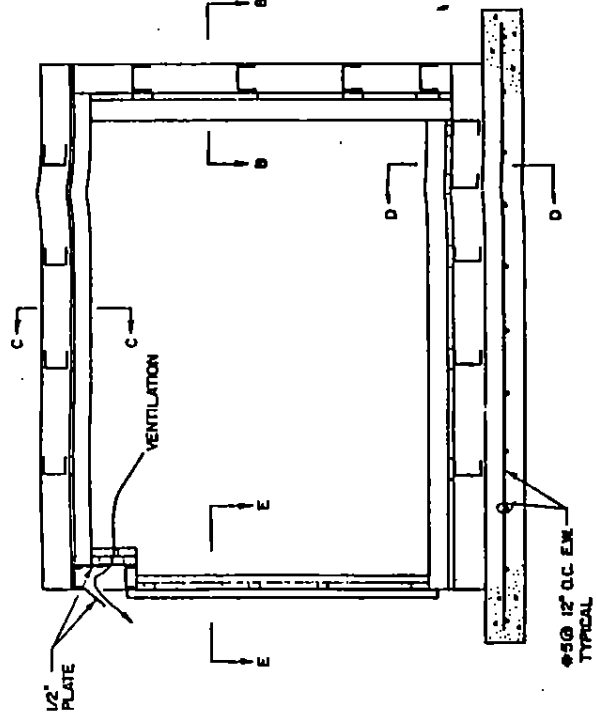
STORAGE MAGAZINES 1 - 7



FRONT ELEVATION  
N.T.S.

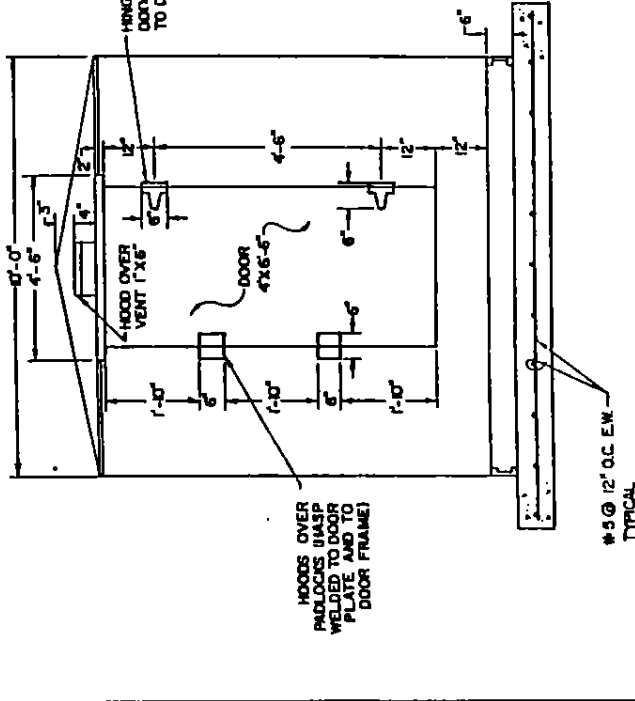


SIDE ELEVATION  
N.T.S.

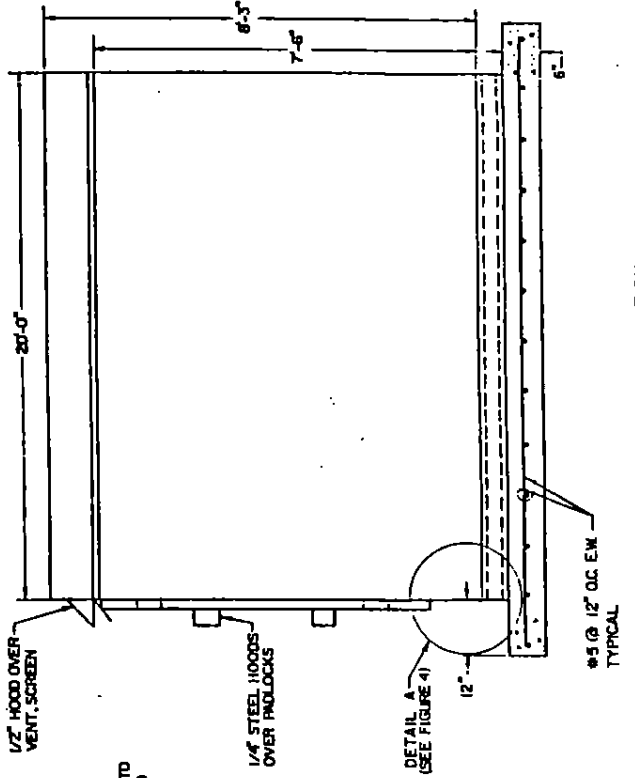


SECTION "A - A"  
N.T.S.

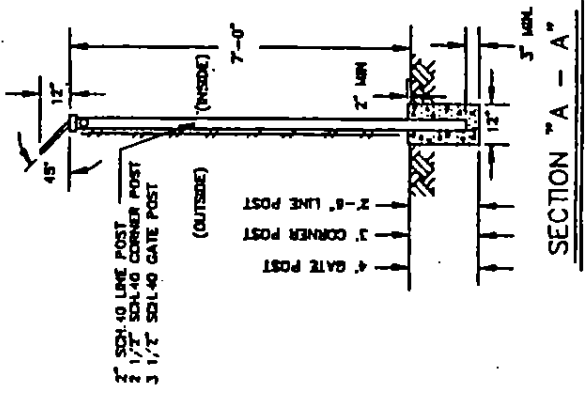
STORAGE MAGAZINES 8, 9 & 10



FRONT ELEVATION  
N.T.S.



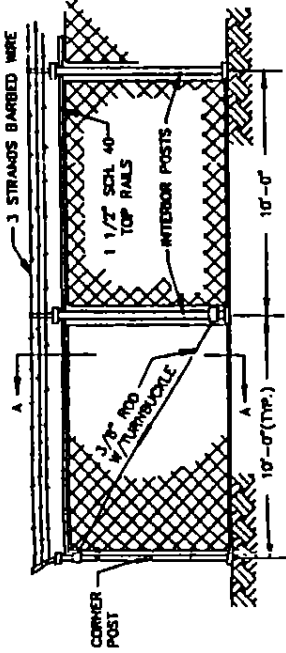
SIDE ELEVATION  
N.T.S.



SECTION "A - A"  
N.T.S.

1. CHAIN LINK FENCE FABRIC PER ASTM A392 CLASS 2, MIN. TENSILE STRENGTH-65 P.S.I. WEAVE PER ASTM A392, 3" MESH WIRE DIAMETER 0.148 IN., GALVANIZED
2. BARBED WIRE PER ASTM A121 CLASS 2 WIRE DIAMETER 0.103 IN. MIN. BARB DIAMETER 0.080 IN. MIN. BARB SPACING 4 IN. MAX. GALVANIZED
3. POST GALVANIZED PER ASTM A31 MIN. TENSILE STRENGTH-45,000 P.S.I.

SCALE: 1/4" = 1'-0"



ELEVATION

GENERAL NOTES

1. Concrete shall have a minimum compressive strength at 28 days as follows:  
Paving Material: Concrete: 3000 psi  
All structural Concrete: 4000 psi
2. Reinforcing steel shall be ASTM A 615 Grade 60, Welded Wire Mesh shall conform to ASTM A 181.
3. Unless otherwise noted, standard clear cover for reinforcing steel shall conform to ACI 318 and ACI 308.1 latest editions.
4. All reinforcing steel and accessories used in the design shall be specified in the drawings. The contractor shall be responsible for the proper placement and protection of the reinforcement. The contractor shall be responsible for the proper placement and protection of the reinforcement.
5. All concrete edges shall be chamfered 1/4" unless otherwise noted.
6. Contractor shall take all necessary precautions to prevent flotation of structures until completed and installed in place.
7. Dimensions and location of all openings, pads, supports, and accessories shall be as shown on the drawings and shall conform to the specifications.
8. Conditions all work with substructure, foundation and electrical drawings.



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**STORAGE MAGAZINE -  
FENCE ELEVATIONS  
AND SECTIONS**

AS SHOWN SCALE	JOB NO.	REV.
24216-01	0	REV.

Drawing # 109

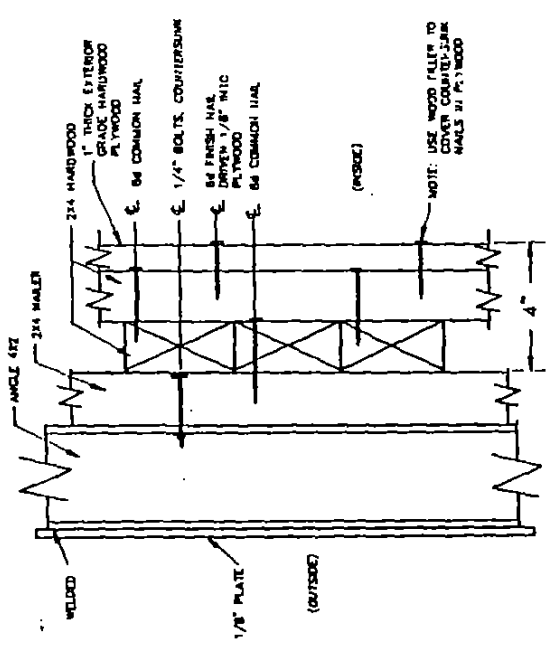
**Clean Harbors**  
ENVIRONMENTAL SERVICES, INC.

Clean Harbors Colfax, LLC  
Colfax, Louisiana

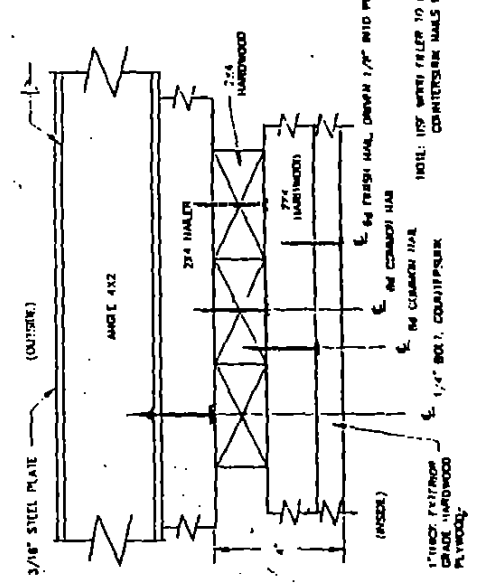
Drawing # 109

DESIGNED BY:	LD. MATERS
DRAWN BY:	LD. MATERS
CHECKED BY:	LD. MATERS
APPROVED BY:	LD. MATERS

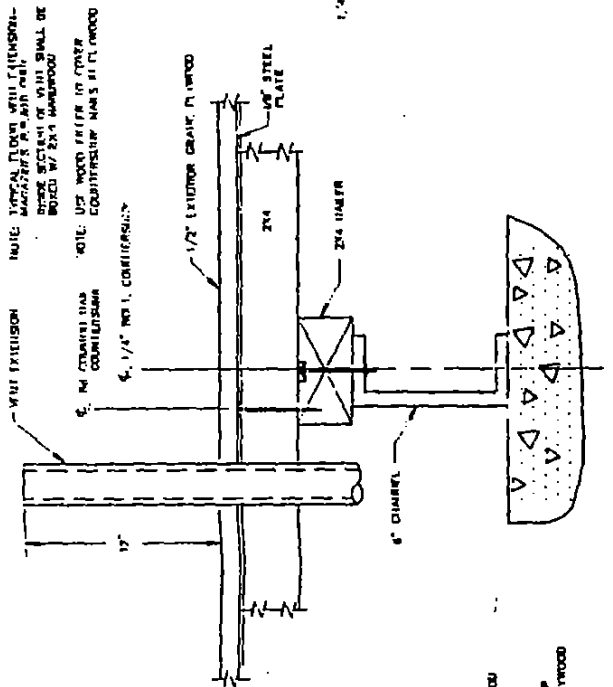
DATE	NO.	REVISION



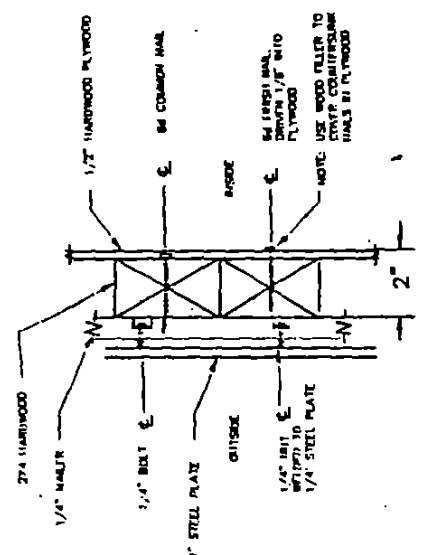
SECTION "B-B"



SECTION "C-C"



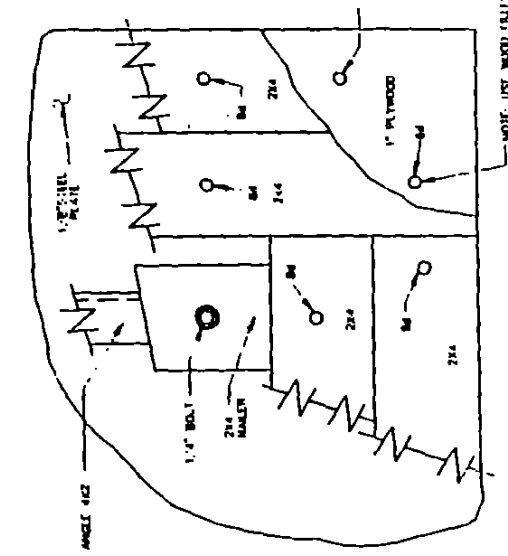
SECTION "D-D"



SECTION "E-E"

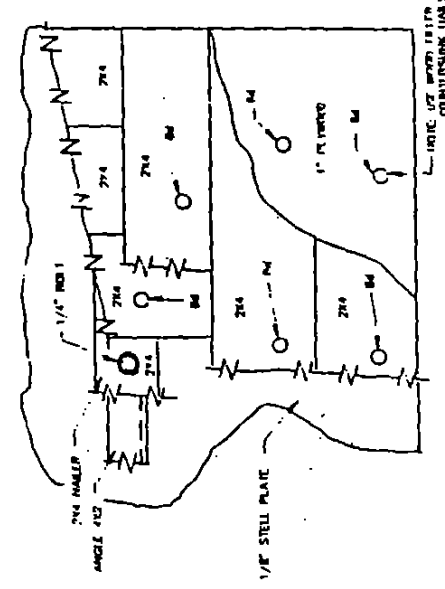
FLOOR

DOOR



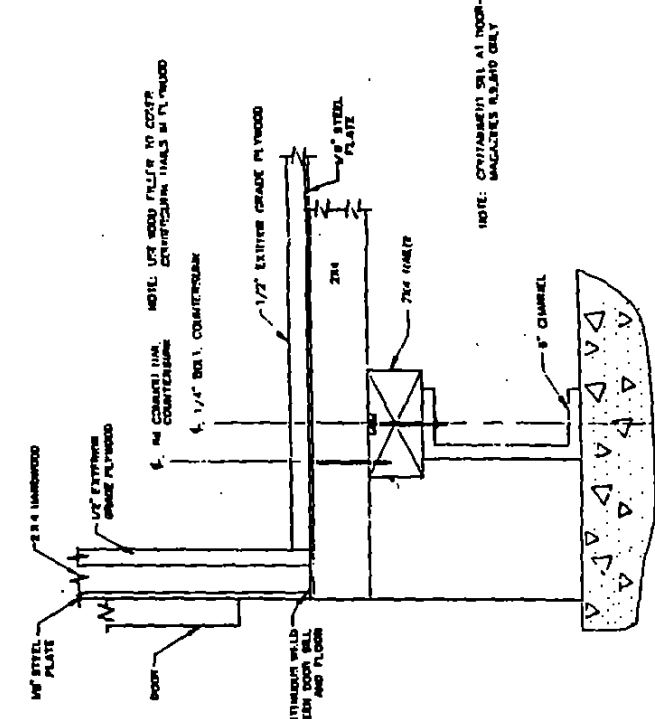
ELEVATION FROM INSIDE

WALL



ELEVATION FROM INSIDE

ROOF



DETAIL A  
DOOR SILL-FLOOR CONNECTION

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AS SHOWN SCALE	
24216-01	0
JOB NO.	REV.
Drawing # 110	

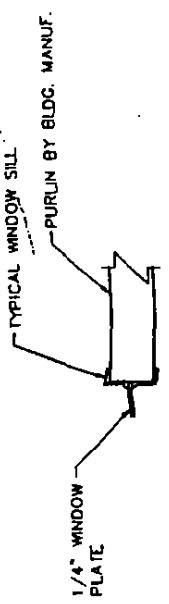
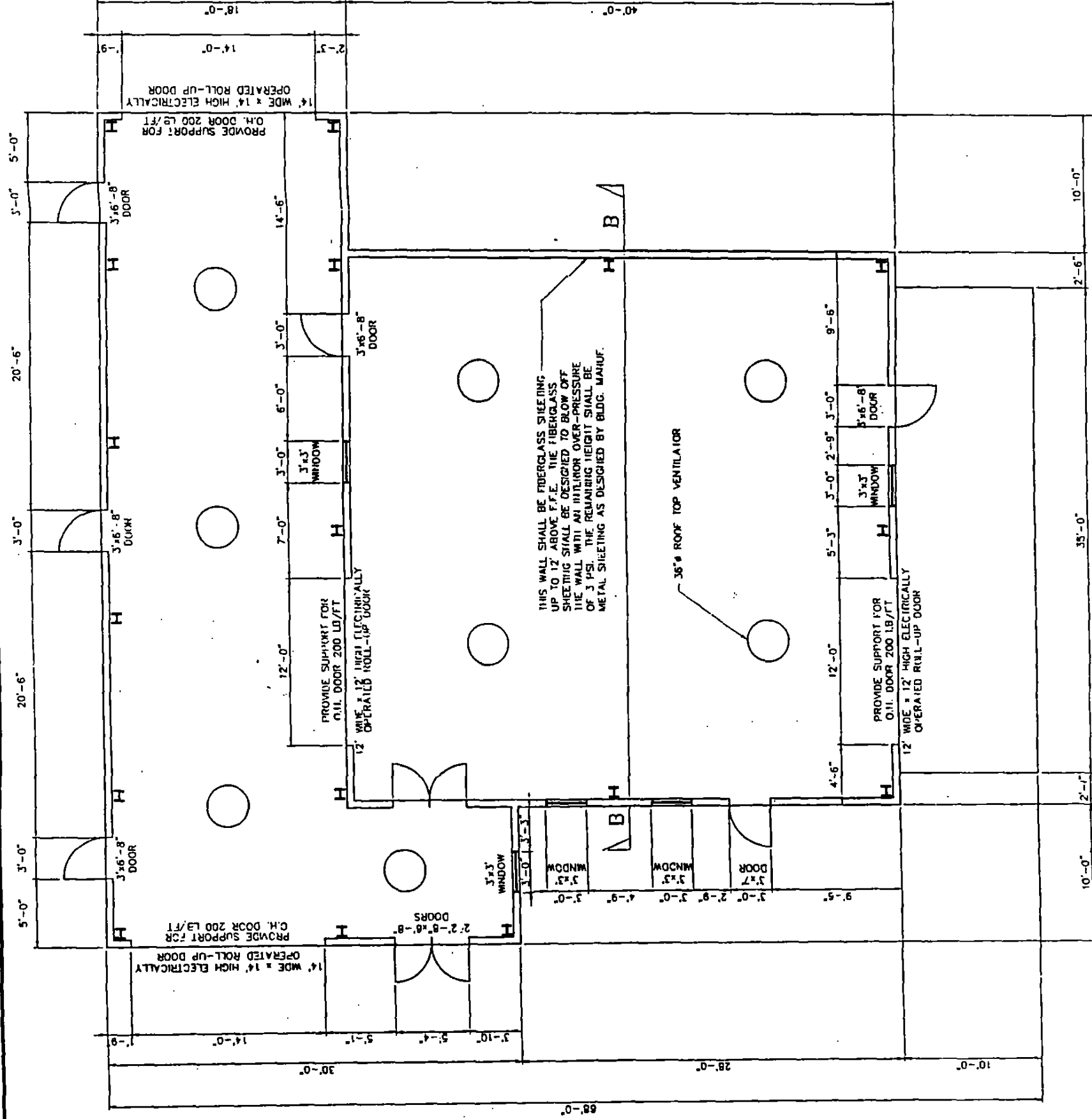
**Clean Harbors**  
ENVIRONMENTAL SERVICES, INC.

Clean Harbors Colfax, LLC  
Colfax, Louisiana

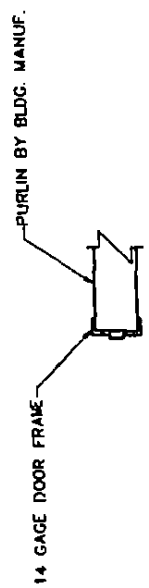
Drawing # 110

DESIGNED BY:	LD. MATTERS
DRAWN BY:	LD. MATTERS
CHECKED BY:	LD. MATTERS
APPROVED BY:	LD. MATTERS

DATE	NO.	REVISION



TYPICAL WINDOW FRAME DETAIL  
1/2" = 1'-0"



TYPICAL DOOR FRAME DETAIL  
1/8" = 1'-0"

- NOTES**
1. ALL DOORS SHALL BE HOLLOW METAL INDUSTRIAL GRADE WITH 14 GAGE FRAMES AND WITH 16 GAGE DOORS
  2. PROVIDE ALL DOORS WITH 1 1/2 PAIR BUTT HINGES
  3. VERIFY ALL DOOR HARDWARE WITH OWNER
  4. ALL ROLL-UP DOORS SHALL BE GALVANIZED STEEL DRUM TYPE SLAT ROLL-UPS BY CRAWFORD OR EQUIVALENT
  5. ALL WINDOWS SHALL BE 3'x3' FIXED PANE WITH 1/4" PLATE
  6. PROVIDE 8 3/8" ROOF TOP VENTILATORS LOCATE AS SHOWN ON PLAN
  7. PROVIDE 48"x48" ELECTRIC FANS IN PEAK OF SIDING ON BOTH ENDS OF BUILDING

RE: VIROGROUP, DRAWING No. 309 PREP3.



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ENVIRONMENTAL CONSULTANTS

AS SHOWN SCALE	24216-01	0
	JOB NO.	REV.

**PREPARATION BUILDING  
FLOOR PLAN**

Drawing # 111

FOUNDATION PLAN  
1/8" = 1'-0"

**CleanHarbors**  
ENVIRONMENTAL SERVICES, INC.

Clean Harbors Colfax, LLC  
Colfax, Louisiana

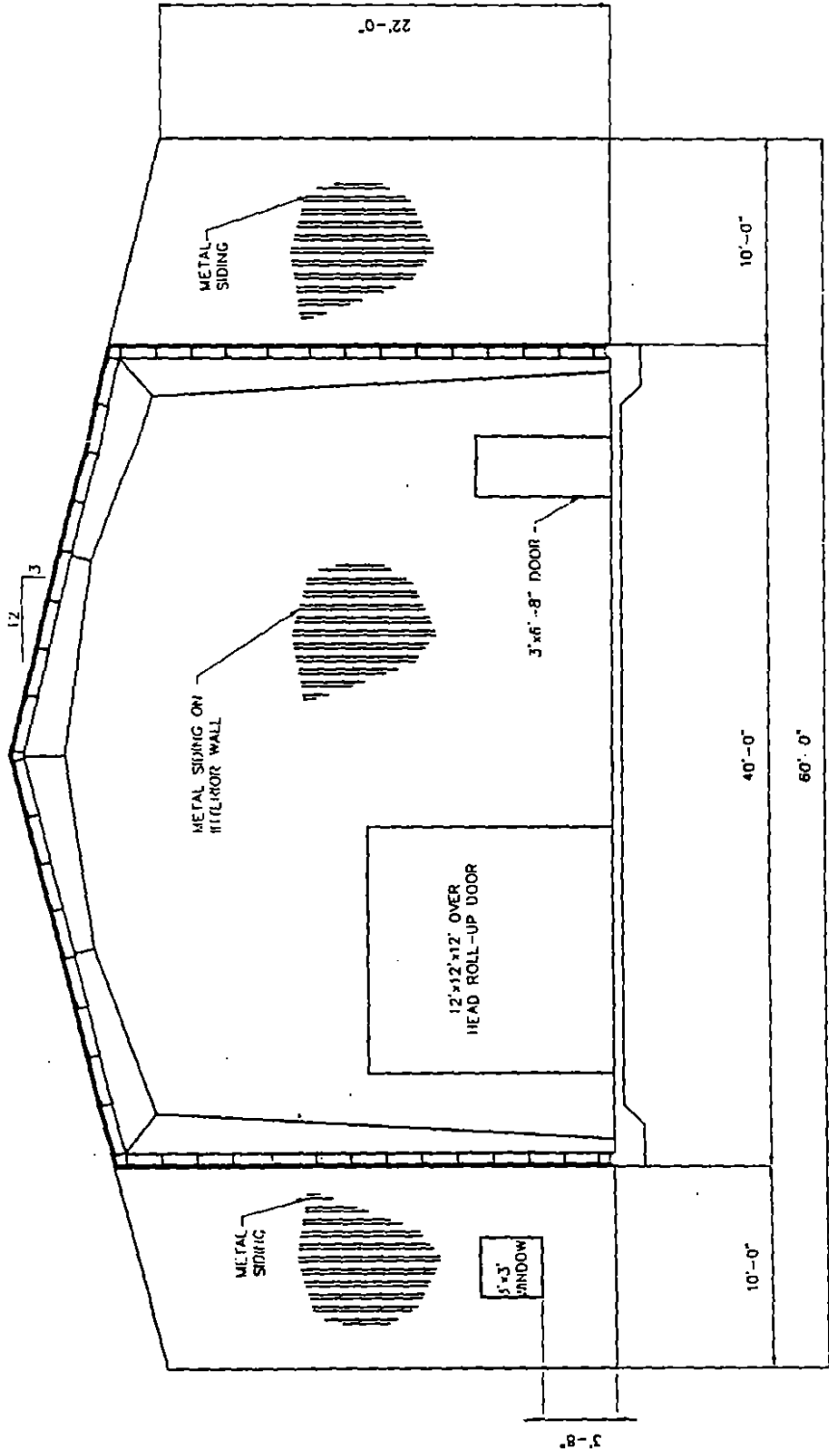
Drawing # 111

DESIGNED BY:	LD. MATERS
DRAWN BY:	LD. MATERS
CHECKED BY:	LD. MATERS
APPROVED BY:	LD. MATERS

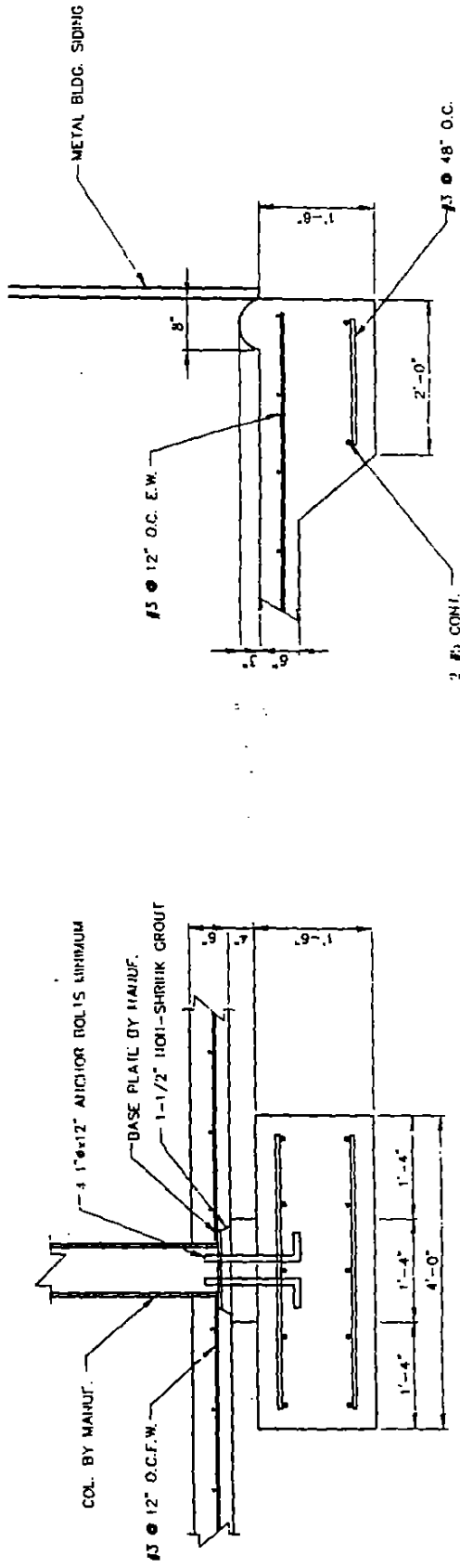
DATE	NO.	REVISION	BY







SECTION B-B  
SCALE: 1/8" = 1'-0"



SECTION A-A  
SCALE: 1/2" = 1'-0"

TYPICAL FOOTING DETAIL  
SCALE: 1/2" = 1'-0"

RE: VIROGROUP, DRAWING No. 309 PREP.



AS SHOWN SCALE	24216-01 JOB No.	0 REV.
Drawing # 113		

PREPARATION BUILDING  
DETAIL SHEET

Clean Harbors Colfax, LLC  
Colfax, Louisiana

CleanHarbors  
ENVIRONMENTAL SERVICES, INC.  
Drawing # 113

08/03/97  
6-247  
6/6/97

DESIGNED BY: LD. MATTERS  
DRAWN BY: TJ  
CHECKED BY: JAL  
APPROVED BY: JAL

BY

REVISION

DATE NO.

## Reference Sheet



\*REF+157370\*



**DRAWING # 116**

**AERIAL PHOTOGRAPH OF FACILITY (JULY 1994)**

## Reference Sheet



\*REF+157371\*

## **APPENDIX F**

### **TABLES**

**TABLE 1**  
**WELLS WITHIN 3 MILES OF THE FACILITY**

There are 37 wells within a 3 mile radius of (lat/long) 31:34:05, -92:43:21

### Wells Listing

Parish	DOTD Well #	Owner Name	Well Owner #	Driller's Name	Well Depth	Well Use	Casing Size (in)	Drill Date	Latitude	Longitude	Geologic Unit	Available Info
Grant	- 392	WEST GRANT WTR	NO 2	STAMM-SCHEELE	45	PUBLIC SUPPLY	6	10/73	31:34:52	-92:43:17	112MGMR	D Q W
Grant	- 393	WEST GRANT WTR	NO 3	STAMM-SCHEELE	75	PUBLIC SUPPLY	6	10/73	31:34:12	-92:43:46	122CTHL	Q W
Grant	- 259	LA PUBLIC WORKS	TEST#1	THOMAS, DOYLE	127	PLUGGED		1969	31:34:08	-92:43:55	122CTHL	DM
Grant	- 5127Z	R & D	PGI-MW-1	GROUNDWATER/134	134	MONITOR	4	06/93	31:34:03	-92:43:57	122CTHL	D W
Grant	- 5128Z	R & D	PGI-MW-2	GROUNDWATER/40	40	MONITOR	4	07/93	31:34:03	-92:43:57	122CTHL	D W
Grant	- 5129Z	R & D	PGI-MW-3	GROUNDWATER/53	53	MONITOR	4	07/93	31:34:03	-92:43:57	122CTHL	D W
Grant	- 62	GOZA, PAUL		OWNER	25	STOCK	6	1938	31:34:32	-92:44:42	112RRVA	Q W
Grant	- 63	ETHRIDGE, E A		UNKNOWN	35	DOMESTIC	6	07/39	31:34:04	-92:44:03	122CTHL	W
Grant	- 75	TEAL, LOUISE		FRANK HARPER	136	DOMESTIC	4	11/39	31:31:55	-92:42:59	122CTHL	Q
Grant	- 76	NORMAN, N L		FRANK HARPER	30	UNKNOWN	2	11/39	31:32:05	-92:42:49	112RRVA	Q
Grant	- 77	NORMAN, N L		FRANK HARPER	148	STOCK	2	11/39	31:32:09	-92:42:45	122CTHL	Q
Grant	- 87	LURRY, WALTER		UNKNOWN	36	STOCK	2	03/40	31:32:27	-92:41:07	112RRVA	Q
Grant	- 98	DUKE, PAUL A		CROOKS B M	225	DOMESTIC	2	02/44	31:33:07	-92:42:50	122CTHL	D Q
Grant	- 115	RICHARDSON, A		ACME PLUMB	609	PLUGGED		03/58	31:33:33	-92:44:27	11200NWM	E
Grant	- 233	WAMPLER, ALLEN		REX WTR	90	DOMESTIC	2	1958	31:34:07	-92:44:01	122CTHL	Q
Grant	- 234	INTERNAT PAPER		CROOKS B M	260	DOMESTIC	2	1960	31:33:55	-92:41:43	122CTHL	Q
Grant	- 247	DUBOIS, L H		UNKNOWN	100	DOMESTIC	2	11/68	31:34:11	-92:44:15	122CTHL	Q
Grant	- 260	WAMPLER, ALLEN		REX WTR	70	DOMESTIC	2	1958	31:34:07	-92:43:54	122CTHL	Q



Grant	- 291	DAVIS, LOUIS V	UNKNOWN	60	ABANDONED	3	1965	31:34:35	-92:44:20	112RRVA	Q W
Grant	- 297	U S GEOL SURVEY	U.S.G.S.	93	PLUGGED		09/71	31:34:12	-92:43:45	11200NWM	D
Grant	- 298	U S GEOL SURVEY	U.S.G.S.	42	PLUGGED		09/71	31:36:30	-92:43:18	11200NWM	D
Grant	- 321	JONES, JOHN M	GREEN SELF	47	DOMESTIC	1.25	1948	31:36:18	-92:43:21	112MGMR	Q W
Grant	- 343	U S GEOL SURVEY	U.S.G.S.	93	UNKNOWN	1.25	02/73	31:32:31	-92:43:55	112RRVA	D Q W
Grant	- 346	U S GEOL SURVEY	U.S.G.S.	84	OBSERVATION	1.25	10/72	31:33:45	-92:45:01	112RRVA	D Q W
Grant	- 348	U S GEOL SURVEY	U.S.G.S.	84	OBSERVATION	1.25	10/72	31:35:46	-92:45:39	112RRVA	D Q W
Grant	- 364	WEST GRANT WTR	STAMM- SCHEELE	95	ABANDONED	10	1973	31:34:07	-92:43:55	122CTHL	E W
Grant	- 365	WEST GRANT WTR	STAMM- SCHEELE	68	ABANDONED	10	1973	31:34:07	-92:43:55	122CTHL	W
Grant	- 375	U S GEOL SURVEY	U.S.G.S.	75	PLUGGED	1.25	06/74	31:32:34	-92:43:59	112RRVA	D Q W
Grant	- 401	U S GEOL SURVEY	U.S.G.S.	28	OBSERVATION	1.25	02/78	31:31:44	-92:42:52	112RRVA	D Q W
Grant	- 448	U S GEOL SURVEY	U.S.G.S.	74	MONITOR	1.25	08/88	31:32:34	-92:43:56	112RRVA	D Q W
Grant	- 448P	U S GEOL SURVEY	U.S.G.S.	23	MONITOR	2	08/88	31:32:34	-92:43:56	112RRVA	D
Natchitoches	- 158	ABRAHAM LAND CO	UNKNOWN	108	STOCK	2	1951	31:33:16	-92:45:59	112RRVA	
Natchitoches	- 429	U S GEOL SURVEY	U.S.G.S.	85	PLUGGED	1.25	08/73	31:33:11	-92:45:58	112RRVA	Q W
Natchitoches	- 430	U S GEOL SURVEY	U.S.G.S.	94	PLUGGED	1.25	08/73	31:32:35	-92:45:26	112RRVA	Q W
Natchitoches	- 449	U S GEOL SURVEY	U.S.G.S.	76	OBSERVATION	1.25	07/82	31:32:35	-92:45:26	112RRVA	D W
Natchitoches	- 494	U S GEOL SURVEY	U.S.G.S.	108	PLUGGED	1.25	10/82	31:31:45	-92:44:20	112RRVA	D Q W
Natchitoches	- 549	U S GEOL SURVEY	U.S.G.S.	115	OBSERVATION	1.25	11/92	31:31:52	-92:44:32	112RRVA	W

**APPENDIX G**  
**WASTE ANALYSIS PLAN**

**CLEAN HARBORS COLFAX, LLC**  
**WASTE ANALYSIS PLAN**

**CLEAN HARBORS COLFAX, LLC**

**WASTE ANALYSIS PLAN**

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## WASTE ANALYSIS PLAN

### 1.0 INTRODUCTION

In accordance with the regulatory requirements set forth in LAC 33:V.1519, Clean Harbors Colfax, LLC has developed this Waste Analysis Plan (WAP). As required by LAC 33:V.517.E, Clean Harbors Colfax, LLC has included this WAP as an integral part of the Part II Permit Application for its hazardous waste treatment facility located near Colfax, Louisiana. Implementation of the procedures set forth in this plan will ensure that this facility remains in compliance with all requirements of LAC 33:V.1519. A copy of this plan will be available at the facility at all times.

The purpose of this Waste Analysis Plan is to document the necessary sampling methodologies, analytical techniques and overall procedures that are undertaken for all hazardous and nonhazardous wastes (hereinafter "wastes") that enter this facility for storage, treatment and disposal. Specifically, the plan delineates the following:

- **Pre-Acceptance Procedures** (Section 2.0) to determine the acceptability of a particular waste stream pursuant to facility permit conditions and operating capabilities prior to any shipment of that waste to the facility.
- **Sampling Methodology** (Section 3.0) to verify that representative samples are taken of incoming loads and during processing and that the methods are equivalent to those outlined in 40 CFR 261, Appendix 1, incorporated into LAC 33:V.110, or approved by the Administrative Authority.
- **Analytical Rationale** (Section 4.0) to ensure that the parameters specified for each waste will provide sufficient information on the waste properties to treat, store and/or dispose of the waste in a manner which protects human health and the environment.
- **Incoming Load Procedures** (Section 5.0) to verify that the delivered waste matches the accompanying manifest, pre-acceptance documentation, and the conditions of the facility permit.
- **Process Operations Procedures** (Section 6.0) to maintain safe and appropriate methods of storage, treatment, disposal or movement of wastes within the facility.

It is the policy of Clean Harbors Colfax, LLC that wastes handled by this facility will be subjected to these procedures. Strict compliance with this policy will ensure that this facility will be in

compliance with applicable permits and regulations and is operated in a safe and environmentally sound manner.

## **2.0 PRE-ACCEPTANCE PROCEDURES**

Pre-acceptance control is the mechanism for deciding to reject or accept a particular type of waste, prior to its shipment to the facility, based on the conditions or limitations of existing permits and regulations, and its compatibility with other wastes being stored, treated and/or disposed at the facility, in compliance with LAC 33:V.1519.A.1.

For each new waste stream that is a candidate for delivery to the facility, the following procedures are implemented:

- Each generator who wishes to ship waste to the facility will provide a completed and signed Waste Profile Form, shown on Exhibit B, (or an equivalent form) in compliance with LAC 33:V.1519.B.6. The generator may also supply developed data and existing published or documented data on the waste or wastes generated from similar processes in compliance with LAC 33:V.1519.A.2.
- Clean Harbors Colfax, LLC will review and verify the information contained on the Waste Profile Form. In addition, certain information contained on the form will be confirmed through the expertise of facility personnel based on historical knowledge of similar wastes that have been processed at the facility in the past.
- After reviewing all available data, Clean Harbors Colfax, LLC will determine the acceptability of the waste based on: (1) the permit conditions for the facility, and (2) the on-site availability of the proper and safe waste management techniques.
- In compliance with LAC 33:V.1519.A.3 and 1519.B.4, the pre-acceptance evaluation will be repeated when a generator notifies Clean Harbors Colfax, LLC that the process generating the waste has changed, although due to the uniqueness of each waste stream processed at the facility, the likelihood of process changes is considered small. Similarly, the pre-acceptance evaluation may also need to be repeated if the facility has reason to suspect that the waste does not conform to pre-acceptance documentation. Otherwise, the pre-acceptance evaluation will be completed on an annual basis for all wastes that continue to be shipped to the facility to assure the waste characteristics and other information on the Waste Profile Form have not significantly changed.
- Following the pre-acceptance evaluation the generator will be informed whether or not the waste stream will be acceptable at Clean Harbors Colfax, LLC. The notification will include documentation that the facility has the appropriate permits for the waste the generator is shipping and that the facility will accept said waste.

### 3.0 INCOMING WASTE EVALUATION

Incoming wastes will arrive in containers, generally ranging from very small boxes to 55-gallon drums, although other size containers may be utilized in accordance with DOT and ATF shipping requirements. Facility personnel will visually examine the waste containers to evaluate whether the actual type and quantity of waste received matches the representations on the manifest. Due to the reactive nature of the waste managed at the facility, no physical samples of incoming waste will be collected. If necessary, the analyses used to determine acceptability of the waste will be reviewed to ensure that the waste received is consistent with original representations.

Facility personnel who conduct the sampling and analysis will classify the waste as being non-conforming or off specification if it is significantly different in any characteristics from the information provided on the Waste Profile Form or if it is significantly different in composition or volume from that shown on the manifest.

Waste found to be off specification will be rejected, or it may be re-evaluated for possible acceptance by the facility despite the variance (possibly under an alternate Waste Profile). The re-evaluation will be based on the following criteria:

- Permit authorization,
- Additional testing,
- Discussions with the generator,
- Facility conditions, and
- General Manager's judgment

Facility personnel will discuss and attempt to resolve with the generator any discrepancy between the actual waste and the information indicated on the manifest. In the case of significant discrepancies, the generator will be asked to provide a written document noting the non-conformance and reasons for the occurrence.

If the load is accepted, the General Manager, or designee, will sign and date the manifest.

An incoming waste report will be prepared for each shipment accepted. The report will note the manifest number, quantity, type, and on-site storage destination of each shipment. The report will be updated each time wastes are moved to different storage magazines or

treatment areas. The updated information will consist of the appropriate manifest document number, type and quantity of waste, and previous and new locations.

The use of the incoming waste report constitutes the primary Quality Assurance and quality Control procedure at the facility. As previously stated, this report is updated each time the waste is managed (e.g., removal from the magazine to the preparation building, removal from the preparation building to the thermal treatment unit, etc.). If at any time a discrepancy or other unusual situation develops, facility personnel will immediately contact the site QA/QC manager to determine an appropriate course of action.

#### **4.0 SITE GENERATED WASTE EVALUATION**

4.1 General. This section addresses waste generated from the thermal treatment process. Specific waste streams include:

- Residue remaining from treating characteristic (D003) hazardous waste, and
- Residue remaining from treated listed hazardous waste.

All ash and residue resulting from the thermal treatment process will be stored on-site within a contained area prior to shipment off-site for disposal. Residue from the treatment of characteristic waste will be kept separate from the residue generated in the treatment of listed waste. This waste analysis plan contains methods for evaluating the ash from the treatment of characteristic waste to determine the proper method of handling and disposal. For additional information on the management of the ash residues, refer to Exhibit A, Ash Management SOP.

4.2 Waste Characterization - Residues from Treatment of Characteristic Waste. As previously stated, residue from the treatment of characteristic waste will be separated from residue from the treatment of listed waste. The frequency of sampling will be based on the rate of filling the container, rather than a chronological interval. Sampling will be conducted as follows:

- Three sub-samples will be taken from each container to be shipped, as it is being filled. These will be composited after the final sub-sample is obtained and analyzed as a single sample.
- Sub-samples will be collected as follows; Sub-sample No. 1 will be collected from the ash surface near one end of the container, Sub-sample No. 2 will be collected from the middle of the container at mid-depth of the ash, and Sub-sample No. 3 collected from the opposite end of the container near the bottom.
- Sub-samples will be held and composited for final analysis.



The composite sample will be analyzed to determine if the residue exhibits the characteristic of toxicity for the metals listed in LAC 33:V.4903. Testing will be in accordance with the methods published U.S. Environmental Protection Agency (EPA) *Test Methods for Evaluating Solid Waste*; SW-846; Third Edition. Extraction protocol will comply with SW-846 Method 1310A; analysis for metals will be in accordance with SW-846 methods.

QA/QC documentation to be provided by the contract analytical laboratory will include:

- sample documentation;
- documentation of initial and continuing calibration;
- determination and documentation of detection limits;
- analyte identification and quantification;
- matrix spike recoveries;
- performance evaluation samples;
- analytical error determination; and
- total measurement error determination.

Sample containers will be provided by the laboratory, and will be used as received. Sample containers will be labeled to provide information on the sample location, date, time, sampling personnel, and the parameters for which the waste is to be analyzed. Strict chain-of-custody will be followed.

Any equipment which is used for sampling will be decontaminated prior to use. Decontamination will involve a detergent wash with a non-phosphate detergent followed by triple rinsing with distilled water. After decontamination, the sampling equipment will be wrapped in aluminum foil if not used immediately.

4.3 Waste Characterization - Residue from the Treatment of Listed Hazardous Waste. The ash residue from the burners used to treat listed hazardous waste will be assigned the waste codes applicable to the waste prior to thermal treatment. This waste will be sent under manifest to a permitted disposal facility.

As required under LAC 33:V, Chapter 22, Clean Harbors Colfax, LLC will evaluate these wastes to

determine whether land ban disposal restrictions apply, and if so, whether further treatment is required to reach permissible disposal concentrations. In such cases, the subject ash will be analyzed for the constituent specified in Chapter 22 for the applicable waste code. All Sampling protocol and analytical methods, including QA/QC requirements, will be as specified in Section 4.2 above.

This section specifies the parameters for which each waste will be analyzed and the rationale for the selection of these parameters, in compliance with LAC 33:V.1519.B.1.

## **5.0 PROCESS OPERATIONS**

Existing and anticipated process operations at the facility include the following:

- Storage (in magazines)
- Thermal Treatment (including preparation of materials for destruction)

**EXHIBIT A**

**ASH MANAGEMENT SOP**

# **Clean Harbors Colfax, LLC**

## **Standard Operating Procedure**

### **Ash Management**

#### **1.0 Purpose/Scope:**

- 1.1 To ensure the proper management of ash and residues in accordance with the facility's operating permit, applicable hazardous waste management regulations, and company policy.

#### **2.0 Procedure:**

- 2.1 All ash and residue from the burners will be collected and appropriately stored on-site pending off-site disposal.
- 2.2 Ash collected from waste burners 1-5 and 11-15 will be considered nonhazardous as long as no listed waste or characteristically hazardous waste other than D003 is thermally treated in these burners.
- 2.3 On a monthly basis, (or less frequently if it takes longer than a month to accumulate one full roll off container), the residue will be sampled and analyzed for the parameters listed below:

arsenic	barium	cadmium	chromium
lead	mercury	selenium	silver

- 2.4 The sampling procedure will be as described in the Waste Analysis Plan:
  - 2.4.1 Three samples will be taken from each roll off to be shipped.
  - 2.4.2 Samples will be collected as the roll off container is filled and held for final analysis.
  - 2.4.3 The first sample will be collected from the ash surface near one end of the container; the second sample will be collected from the middle of the container at mid depth of the ash; and the third sample will be collected from the opposite end of the container near the bottom.
- 2.5 Ash collected from waste burners 6-10 and 16-20 will be considered hazardous since listed wastes are thermally treated in these burners.
- 2.6 Each container of ash and residue from these burners will also be analyzed for the parameters listed in Section 2.3 of this procedure.
- 2.7 The EPA waste codes associated with these materials will be all those listed wastes that have been thermally treated in the burners since the time they were last replaced. These waste codes can be determined by

reviewing the incoming manifests and daily operating records for each unit.

- 2.8 During the time while ash and residue are being accumulated on-site, the following standards will apply

2.8.1 The residue resulting from the listed waste burners will be accumulated for not longer than 3 days once the quantity reaches 55 gallons of hazardous waste (or 1 quart of acutely hazardous waste (P-listed)) outside the permitted storage unit and up to 365 days within the permitted storage unit. During this time, each container will be marked and managed as hazardous waste and will remain closed at all times except when necessary to add waste to or remove waste from the container.

2.8.2 The residue resulting from the burners in which only D003 wastes were managed will be accumulated in containers such as a roll off that may be left open as long as they are stored in areas that protect them from accumulating precipitation. It will be assumed that these materials are nonhazardous unless the analytical results suggest otherwise. In the event that the analytical results do indicate that the material is hazardous, the affected container(s) will immediately be provided with an appropriate cover and a completed hazardous waste label. Arrangements for off-site shipment will be made in due course, but under no circumstances should the material be allowed to remain on site for longer than those time constraints identified previously for hazardous waste.

2.9 Shipments of ash and residue must be accompanied by the appropriate paperwork, generally consisting of a hazardous waste manifest and an LDR form (as needed). Nonhazardous waste shipments may be shipped on a bill of lading.

2.10 Records of all shipments must be maintained in the operating record for the facility. In the case of hazardous waste shipments, complete information regarding the amount generated and other information related to the off-site management of the material must be included in the facility's annual hazardous waste report.

### **3.0 SOP Management:**

This SOP should be reviewed annually for consistency with the facility's permit, applicable regulations, and company policy. Any changes to this policy or deviations from the policy should immediately be conveyed to the management of the facility and the compliance manager.

**EXHIBIT B**

**WASTE PROFILE SHEET**



ENVIRONMENTAL SERVICES, INC.

# **Generator's Waste Material Profile Sheet**

**FOR INTERNAL USE ONLY:**

- ☐ Normal Profile    ☐ X-Profile  
☐ One Time Waste    ☐ Repeat Waste  
 For Profiles only to 617-380-3581

**WASTE MATERIAL PROFILE SHEET**Profile Number **CH 201244****GENERAL INFORMATION**

GENERATOR EPA ID # \_\_\_\_\_  
 GENERATOR CODE (Assigned by Clean Harbors) \_\_\_\_\_ GENERATOR NAME: \_\_\_\_\_  
 ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
 GENERATOR TECHNICAL CONTACT: \_\_\_\_\_ PHONE: \_\_\_\_\_  
 CUSTOMER CODE (Assigned by Clean Harbors) \_\_\_\_\_ CUSTOMER NAME: \_\_\_\_\_  
 ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**WASTE DESCRIPTION**

Common Name of Waste: \_\_\_\_\_

Process Generating Waste: \_\_\_\_\_

**Process Generating Waste:****(check one)** If spill, origin of spilled material

☐ Unused chemical or product  
☐ Lab Pack  
☐ Spent halogenated solvents  
☐ Spent non-halogenated solvents  
☐ Wastewater treatment sludge from electroplating or etching operations  
☐ Spent plating bath solutions or residues of plating, stripping and cleaning baths where cyanides are used in the process  
☐ Wood preservation  
☐ Inorganic pigment production  
☐ Organic chemical production  
☐ Inorganic chemical production  
☐ Pesticide production  
☐ Explosives production  
☐ Petroleum refining  
☐ Iron or steel production or finishing  
☐ Primary copper production  
☐ Primary lead production  
☐ Primary zinc production  
☐ Primary Aluminum production  
☐ Ferro alloy production  
☐ Secondary lead smelting  
☐ Veterinary pharmaceutical production  
☐ Ink formulation  
☐ Coking  
☐ Other \_\_\_\_\_  
☐ Unknown

**Source of Waste:****(check one)**

- ☐ Unused Product or Chemical  
☐ Waste by-product from process  
☐ Spill clean up  
☐ Lab Pack  
☐ Planned site remediation  
☐ Other: \_\_\_\_\_

**Other Process Information:****(check all that apply)**

- ☐ Still bottoms  
☐ Process scrap  
☐ Process development  
☐ Out of date product  
☐ Spent solvent waste  
☐ Treatment residues  
☐ Filter cake  
☐ Degreasing  
☐ Exempt recyclable material  
☐ Packaged consumer goods  
☐ Off-spec chemical product  
☐ Zinc, Al, or tin plating  
☐ Anodizing  
☐ Cleaning/stripping  
☐ Wastewater treatment sludges  
☐ Washwaters  
☐ Pot liners

**Other Process Information:****(check all that apply)**

- ☐ Electroplating  
☐ Conversion coating  
☐ Carbon steel plating  
☐ Printed circuit mfg.  
☐ Cyanide process  
☐ Heat treating  
☐ Separator sludge  
☐ Oven residue  
☐ Catalyst waste  
☐ Centrifuged solids  
☐ Condensate  
☐ Air, steam, or vacuum stripping  
☐ Emission control dust  
☐ Acid leaching  
☐ Dipping operations  
☐ Chemical manufacturing  
☐ Carbon adsorption  
☐ Incineration or thermal treatment  
☐ Refining  
☐ Drug mfg.  
☐ Distillation  
☐ Pesticide mfg.  
☐ Reclamation  
☐ Etching of metals  
☐ Bag house dust

Profile Number **CH 201244****PHYSICAL PROPERTIES (at 25°C or 77°F)**

<b>PHYSICAL STATE</b> <input type="checkbox"/> SOLID WITHOUT FREE LIQUID <input type="checkbox"/> POWDER <input type="checkbox"/> MONOLITHIC SOLID <input type="checkbox"/> LIQUID WITH NO SOLIDS <input type="checkbox"/> LIQUID/SOLID MIXTURE % FREE LIQUID _____ % SETTLED SOLID _____ % TOTAL SUSPENDED SOLID _____ <input type="checkbox"/> GAS/AEROSOL	<b>NUMBER OF PHASES/LAYERS</b> <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 % BY VOLUME (APPROX.) TOP _____ MIDDLE _____ BOTTOM _____ <b>ODOR</b> <input type="checkbox"/> NONE OR MILD <input type="checkbox"/> STRONG <b>BOILING POINT (if liquid)</b> <input type="checkbox"/> ≤ 100°F <input type="checkbox"/> > 100°F	<b>VISCOSITY (if liquid present)</b> <input type="checkbox"/> LOW (e.g. WATER) <input type="checkbox"/> MEDIUM (e.g. MOTOR OIL) <input type="checkbox"/> HIGH (e.g. MOLASSES) <b>MELTING POINT (for solids only)</b> <input type="checkbox"/> < 140°F <input type="checkbox"/> 140-200°F <input type="checkbox"/> > 200°F	<b>COLOR</b>	
<b>ASH POINT</b> <input type="checkbox"/> < 73°F <input type="checkbox"/> 73-100°F <input type="checkbox"/> 101-140°F <input type="checkbox"/> 141-200°F <input type="checkbox"/> > 200°F	<b>pH</b> <input type="checkbox"/> ≤ 2 <input type="checkbox"/> 2.1 - 6.9 <input type="checkbox"/> 7 (neutral) <input type="checkbox"/> 7.1 - 12.4 <input type="checkbox"/> ≥ 12.5	<b>SPECIFIC GRAVITY</b> <input type="checkbox"/> < 0.8 (e.g. Gasoline) <input type="checkbox"/> 0.8-1.0 (e.g. Ethanol) <input type="checkbox"/> 1.0 (e.g. Water) <input type="checkbox"/> 1.0-1.2 (e.g. Antifreeze) <input type="checkbox"/> > 1.2 (e.g. Methylene Chloride)	<b>TOTAL ORGANIC CARBON (if liquid)</b> <input type="checkbox"/> ≤ 1% <input type="checkbox"/> 1-9% <input type="checkbox"/> ≥ 10% <b>VAPOR PRESSURE (for liquids only)</b> _____ mm Hg	<b>BTU/LB</b> <input type="checkbox"/> < 2,000 <input type="checkbox"/> 2,000-5,000 <input type="checkbox"/> 5,000-10,000 <input type="checkbox"/> > 10,000



**D. COMPOSITION** (Must add up to at least 100%. Include inert materials and/or debris if applicable. Actual percent or range is acceptable.)

_____	_____	_____ %	_____	_____ %
_____	_____	_____ %	_____	_____ %
_____	_____	_____ %	_____	_____ %
_____	_____	_____ %	_____	_____ %
_____	_____	_____ %	_____	_____ %

☐ Check if MSDS attached.

**E. CONSTITUENTS** — Attach any available analysis. Enter values or ranges where known. For TCLP values, BRL signifies below regulatory level. None, unknown, and present are also acceptable answers.

Are these values based on ☐ Knowledge or ☐ Testing?

**INORGANIC**

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL mg/l	OTHER METALS	TOTAL	NON-METALS	WT%
D004	ARSENIC	5.0	_____	_____	ALUMINUM	_____	SULFUR	_____
D005	BARIUM	100.0	_____	_____	ANTIMONY	_____	BROMINE	_____
D006	CADMIUM	1.0	_____	_____	BERYLLIUM	_____	CHLORINE	_____
D007	CHROMIUM	5.0	_____	_____	CALCIUM	_____	FLUORINE	_____
D007	CHROMIUM CR+6	_____	_____	_____	COPPER	_____	IODINE	_____
D008	LEAD	5.0	_____	_____	MAGNESIUM	_____		_____
D009	MERCURY	0.2	_____	_____	MOLYBDENUM	_____		_____
D010	SELENIUM	1.0	_____	_____	NICKEL	_____	AMMONIA	PPM
D011	SILVER	5.0	_____	_____	POTASSIUM	_____	REACTIVE SULFIDE	_____
					SILICON	_____	CYANIDE-TOTAL	_____
					SODIUM	_____	CYANIDE AMENABLE	_____
					THALLIUM	_____	CYANIDE REACTIVE	_____
					TIN	_____		_____
					VANADIUM	_____		_____
					ZINC	_____		_____

**ORGANIC**

VOLATILE COMPOUNDS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL mg/l	SEMI-VOLATILE COMPOUNDS	REGULATORY LEVEL (mg/l)	TCLP	TOTAL
D018	BENZENE	0.5	_____	D023	o-CRESOL	200.0	_____
D019	CARBON TETRACHLORIDE	0.5	_____	D024	m-CRESOL	200.0	_____
D021	CHLOROBENZENE	100.0	_____	D025	p-CRESOL	200.0	_____
D022	CHLOROFORM	6.0	_____	D026	CRESOL (TOTAL)	200.0	_____
D028	1,2-DICHLOROETHANE	0.5	_____	D027	1,4-DICHLOROENZENE	7.5	_____
D029	1,1-DICHLOROETHYLENE	0.7	_____	D030	2,4-DINITROTOLUENE	0.13	_____
D035	METHYL ETHYL KETONE	200.0	_____	D032	HEXACHLOROENZENE	0.13	_____
D039	TETRACHLOROETHYLENE	0.7	_____	D033	HEXACHLOROBUTADIENE	0.5	_____
D040	TRICHLOROETHYLENE	0.5	_____	D034	HEXACHLOROETHANE	3.0	_____
D043	VINYL CHLORIDE	0.2	_____	D036	NITROBENZENE	2.0	_____
				D037	PENTACHLOROPHENOL	100.0	_____
				D038	PYRIDINE	5.0	_____
				D041	2,4,5-TRICHLOROPHENOL	400.0	_____
				D042	2,4,6-TRICHLOROPHENOL	2.0	_____

PESTICIDES AND HERBICIDES	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL mg/l	OTHER
D012	ENDRIN	0.02	_____	PHENOL _____ PPM
D013	LINDANE	0.4	_____	TOTAL PETROLEUM HYDROCARBONS (SOILS ONLY) _____ PPM
D014	METHOXYCHLOR	10.0	_____	PCB'S
D015	TOXAPHENE	0.5	_____	<input type="checkbox"/> NONE
D016	2,4-D	10.0	_____	<input type="checkbox"/> < 50 PPM
D017	2,4,5-TP (SILVEX)	1.0	_____	<input type="checkbox"/> ≥ 50 PPM
D020	CHLORDANE	0.03	_____	IF PCB'S ARE PRESENT
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008	_____	<50 PPM, IS THE WASTE REGULATED BY TSCA
				40 CFR 761?
				<input type="checkbox"/> YES <input type="checkbox"/> NO

OTHER HAZARDS	YES	PESTICIDE	YES	SHOCK SENSITIVE	YES	DEA REGULATED SUBSTANCE	YES
WATER REACTIVE	<input type="checkbox"/>	HERBICIDE	<input type="checkbox"/>	THERMALLY SENSITIVE	<input type="checkbox"/>	OXIDIZER	<input type="checkbox"/>
RADIOACTIVE	<input type="checkbox"/>	EXPLOSIVE	<input type="checkbox"/>	INFECTIOUS, PATHOGENIC,	<input type="checkbox"/>	REDUCING AGENT	<input type="checkbox"/>
OXIDIZING	<input type="checkbox"/>	SPONTANEOUSLY	<input type="checkbox"/>	OR ETIOLOGICAL AGENT	<input type="checkbox"/>	NONE OF THE ABOVE	<input type="checkbox"/>
OSHA REGULATED	<input type="checkbox"/>	IGNITES WITH AIR	<input type="checkbox"/>	ASBESTOS	<input type="checkbox"/>		
CARCINOGENS	<input type="checkbox"/>						

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED? YES ☐ NO ☐ (If yes, explain)

**REGULATORY STATUS**

SEPA HAZARDOUS WASTE? (IF Yes List codes.) \_\_\_\_\_

☐ DO ANY GENERATOR STATE WASTE CODES APPLY? IF YES, LIST STATE CODES \_\_\_\_\_

ST ANY FEDERAL OR STATE WASTE CODES WHICH MAY VARY FROM SHIPMENT TO SHIPMENT: \_\_\_\_\_

WILL THE DECISION TO VARY THESE WASTE CODES BE BASED ON ☐ KNOWLEDGE OR ☐ TESTING (check one).

IF KNOWLEDGE, DESCRIBE BASIS OF KNOWLEDGE: \_\_\_\_\_

☐ IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?

THIS WASTE IS A: ☐ WASTEWATER ☐ NON WASTEWATER PER USEPA DEFINITION IN 40 CFR 268.2.

☐ IF ANY WASTE CODES D001, D002, D003 (OTHER THAN REACTIVE CYANIDE OR REACTIVE SULFIDE), D004-D011, D012-D017 NON-WASTEWATERS, OR D018-D043 APPLY. ARE THERE ANY UNDERLYING HAZARDOUS CONSTITUENTS (UHC'S) PRESENT ABOVE UNIVERSAL TREATMENT STANDARDS (UTS)?

☐ DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

☐ IS THIS WASTE SUBJECT TO CATEGORICAL PRETREATMENT DISCHARGE STANDARDS?

IF YES, SPECIFY POINT SOURCE CATEGORY LISTED IN 40 CFR PART 401. \_\_\_\_\_

☐ IS THIS WASTE REGULATED UNDER THE BENZENE NESHAP RULES? (IS THIS WASTE FROM A CHEMICAL MANUFACTURING, COKE BY-PRODUCT RECOVERY, OR PETROLEUM REFINERY PROCESS?)

☐ DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS  $\geq$  500 PPM?

☐ DOES THIS WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE  $\geq$  .3KPA (.044 psia)?

☐ DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE GREATER THAN 77 KPa (11.2psia)?

**D.O.T. INFORMATION:** List all shipping names that may be used. Attach additional page if necessary.

D.T. SHIPPING NAME \_\_\_\_\_

DOT HAZARD CLASS: \_\_\_\_\_

I/NA # \_\_\_\_\_ PACKING GROUP (Circle 1) I II III HAZARD ZONE (Circle 1) A B C D  
 ALL THIS SHIPPING NAME VARY? ☐ Y ☐ N IF YES, WILL ASSIGNMENT OF PROPER SHIPPING NAME BE BASED ON ☐ KNOWLEDGE OR  
 TESTING? (check one) IF KNOWLEDGE, DESCRIBE BASIS OF KNOWLEDGE: \_\_\_\_\_

**TRANSPORTATION REQUIREMENTS**

ESTIMATED SHIPMENT FREQUENCY: ☐ ONE TIME ☐ WEEKLY ☐ SEMI-MONTHLY ☐ MONTHLY ☐ QUARTERLY ☐ OTHER \_\_\_\_\_

BULK LIQUID

GALLONS/SHIPMENT: \_\_\_\_\_ GAL.

FROM TANKS: TANK SIZE \_\_\_\_\_ GAL.

FROM DRUMS

VEHICLE TYPE:

☐ VAC TRUCK

☐ TANK TRUCK

☐ RAILROAD TANK CAR

CHECK COMPATIBLE STORAGE MATERIALS:

☐ STEEL ☐ STAINLESS STEEL (316)

☐ RUBBER LINED ☐ FIBERGLASS LINED

☐ OTHER \_\_\_\_\_

☐ BULK SOLD

TON/YD PER SHIPMENT

STORAGE CAPACITY \_\_\_\_\_ TON/YD

VEHICLE TYPE:

☐ DUMP TRAILER

☐ ROLL OFF BOX

☐ INTERMODAL ROLLOFF BOX

☐ CUSCO/VACTOR

☐ OTHER \_\_\_\_\_

☐ CONTAINERIZED

CONTAINERS/SHIPMENT

STORAGE CAPACITY: \_\_\_\_\_ CONTAINERS

CONTAINER TYPE:

☐ CUBIC YARD BOX

☐ PALLET

☐ TOTE TANK

☐ DRUM SIZE: \_\_\_\_\_

CONTAINER MATERIAL:

☐ STEEL

☐ FIBER

☐ PLASTIC

☐ OTHER \_\_\_\_\_

**SAMPLE STATUS**

REPRESENTATIVE SAMPLE HAS BEEN SUPPLIED. ☐ YES ☐ NO SAMPLED BY \_\_\_\_\_ DATE SAMPLED \_\_\_\_\_

**SPECIFIC DISPOSAL RESTRICTIONS OR REQUESTS:** \_\_\_\_\_

SPECIAL WASTE HANDLING REQUIREMENTS: \_\_\_\_\_

OTHER COMMENTS OR REQUESTS: \_\_\_\_\_

**BIENNIAL/ANNUAL REPORTING INFORMATION.**

SIC CODE \_\_\_\_\_ SOURCE CODE \_\_\_\_\_ FORM CODE \_\_\_\_\_ ORIGIN CODE \_\_\_\_\_

**GENERATOR'S CERTIFICATION**

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I also certify that any samples submitted are representative of the actual waste. If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend this profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE \_\_\_\_\_

NAME (PRINT) \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

**FOR CLEAN HARBORS USE ONLY**

**CHI REPRESENTATIVE COMPLETING PROFILE:** \_\_\_\_\_

**EXHIBIT C**

**LDR FORM**

THE HAZARDOUS WASTES IDENTIFIED ON THE HAZARDOUS WASTE MANIFEST IDENTIFIED ABOVE AND BEARING THE EPA HAZARDOUS WASTE CODES LISTED BELOW ARE RESTRICTED WASTES WHICH ARE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT UNDER THE LAND DISPOSAL RESTRICTIONS, 40 CFR PART 268.7 (a)(2), AND RCRA SECTION 3004(D). IN ACCORDANCE WITH 40 CFR 268.7(a), THE EPA WASTE CODE, WASTE SUBCATEGORY, AND TREATABILITY GROUPS, AS APPLICABLE, ARE INCLUDED BELOW.

INSTRUCTIONS – COMPLETE ALL SECTIONS. REFER TO PAGE 3 OF THIS FORM FOR KEY TERMS/DEFINITIONS.

Column 1 - Line Item: Enter the manifest line item number (e.g., 11a) that corresponds to the waste code(s).

Column 2 - Waste Codes/Subcategory: Check off all applicable waste codes. For D001 through D043, also check applicable subcategory; for F001 through F005, check applicable constituents.

Column 3 - Wastewater/Non-wastewater: Check off "WW" for wastewater and "Non-WW" for non-wastewaters.

Column 4 - LDR Handling Code: Circle the appropriate handling code, as follows:

- 1 = The waste is a characteristic hazardous waste D001, D002, D003, D004-D011, or D018-43 which is intended for treatment/disposal in a CWA system, CWA-equivalent system, or Class I SDWA system. Underlying Hazardous Constituents (UHC's) are NOT required to be identified.
- 1A = The waste is a characteristic hazardous waste D001 High TOC Ignitable Liquids Subcategory (i.e., greater than or equal to 10% TOC). Pursuant to 40 CFR 268.40, the waste must be treated using organic recovery (RORGs) or combustion (CMBST) technology. UHC's are NOT required to be identified.
- 2 = The waste is a characteristic hazardous waste D001 (other than High TOC Ignitable Liquids), D002, D003 Explosive, Water Reactive or Other Reactive subcategory, D004-D011, D012-17 non-wastewater, or D018-43 which is intended for treatment/disposal in a non-CWA system, non-CWA-equivalent system, or non-Class I SDWA system located in the United States. All UHC's which are reasonably expected to be present must be identified, except for D001 waste that is intended to be treated using organic recovery (RORGs) or combustion (CMBST) technologies. Identify UHC's by completing Sections I and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.
- 3 = The waste is a characteristic (i.e., D-code) or listed (i.e., F-, K-, U-, or P-code) hazardous waste which is intended for export and treatment/disposal at a facility located outside the United States. LDR treatment standards do not apply to hazardous waste treated/disposed in a foreign country, and per USEPA guidance, the identification of UHC's (if applicable) is not required for hazardous waste that is intended to be exported. Note however that if the exported waste is subsequently returned for treatment/disposal in the United States, all applicable LDR regulations would apply and a revised LDR notification would be required.
- 4 = The waste meets the definition of hazardous debris pursuant to 40 CFR 268.2(h) and is intended for treatment/ disposal in compliance with the alternate debris treatment technologies of 40 CFR 268.45. In accordance with the requirements of 40 CFR 268.7(a)(2): the contaminants subject to treatment (CSTT's) must be identified as part of this notification. Identify CSTT's by completing Section III and IV of the CHI Form LDR-1 Addendum and attach completed Addendum to this form. These constituents are being treated to comply with 40 CFR 268.45.
- 5 = The waste is a characteristic waste D003 Reactive Sulfide, Reactive Cyanide, or Unexploded Ordnance subcategory, a characteristic waste D012- 17 wastewater, or a listed (i.e., F-, K-, U-, or P-code) hazardous waste. UHC's are NOT required to be identified.
- 6 = The waste is a lab pack that is intended for incineration using the alternative lab pack treatment standard under 40 CFR 268.42(c). UHC's are NOT required to be identified; however, the generator must complete and attach the lab pack certification statement on CHI Form LDR-LP. Note that in accordance with 40 CFR Part 268 Appendix IV, lab packs which contain waste codes D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, and U151 are not eligible for alternative lab pack treatment standard.

\*\*\* **NOTE: IF THE WASTE IS A SOIL CONTAMINATED WITH A LISTED OR CHARACTERISTIC WASTE AND THE GENERATOR WANTS TO USE THE ALTERNATE TREATMENT STANDARD FOR SOILS, CONTACT CORPORATE COMPLIANCE FOR THE APPROPRIATE LDR NOTIFICATION FORM.**

SECTION I. CHARACTERISTIC WASTES D001 THROUGH D043

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
_____	<input type="checkbox"/> D001 Ignitables, except High TOC subcategory	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D001 High TOC Ignitable Liquids Subcategory (Greater than or equal to 10% TOC)	<input type="checkbox"/> Non-WW only	1A 3 6
_____	<input type="checkbox"/> D002 Corrosives	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D003		
	<input type="checkbox"/> Reactive Sulfide, per 261.23 (a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Reactive Cyanide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Explosive, per 261.23(a)(6), (7) & (8)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Water Reactive, per 261.23(a)(2), (3) & (4)	<input type="checkbox"/> Non-WW only	1 2 3 4 6
	<input type="checkbox"/> Other Reactive, per 261.23(a)(1)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Unexploded Ordnance, Emergency Response	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
_____	<input type="checkbox"/> D004 Arsenic	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
_____	<input type="checkbox"/> D005 Barium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
_____	<input type="checkbox"/> D006		
	<input type="checkbox"/> Cadmium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Cadmium Containing Batteries	<input type="checkbox"/> Non-WW only	2 3 6
_____	<input type="checkbox"/> D007 Chromium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D008		
	<input type="checkbox"/> Lead	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Lead Acid Batteries	<input type="checkbox"/> Non-WW only	2 3 6

SECTION I. CHARACTERISTIC WASTES D001-43 (CONTINUED)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
_____	<input type="checkbox"/> D009		
_____	<input type="checkbox"/> Low Mercury, less than 260 mg/kg Mercury	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4
_____	<input type="checkbox"/> High Mercury Organic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
_____	<input type="checkbox"/> High Mercury Inorganic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
_____	<input type="checkbox"/> D010 Selenium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D011 Silver	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D012 Endrin	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
_____	<input type="checkbox"/> D013 Lindane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
_____	<input type="checkbox"/> D014 Methoxychlor	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
_____	<input type="checkbox"/> D015 Toxaphene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
_____	<input type="checkbox"/> D016 2,4-D	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
_____	<input type="checkbox"/> D017 2,4,5-TP (Silvex)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
_____	<input type="checkbox"/> D018 Benzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D019 Carbon tetrachloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D020 Chlordane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D021 Chlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D022 Chloroform	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D023 o-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D024 m-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D025 p-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D026 Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D027 1,4-Dichlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D028 1,2-Dichloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D029 1,1-Dichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D030 2,4-Dinitrotoluene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D031 Heptachlor (and its epoxide)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D032 Hexachlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D033 Hexachlorobutadiene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D034 Hexachloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D035 Methyl ethyl ketone	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D036 Nitrobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D037 Pentachlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D038 Pyridine	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D039 Tetrachloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D040 Trichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D041 2,4,5-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D042 2,4,6-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
_____	<input type="checkbox"/> D043 Vinyl Chloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6

SECTION II. SPENT SOLVENT WASTES F001 THROUGH F005

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
_____	<input type="checkbox"/> F001 <input type="checkbox"/> F002 <input type="checkbox"/> F003 <input type="checkbox"/> F004 <input type="checkbox"/> F005	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
_____	<input type="checkbox"/> 1. ALL F001-F005		<input type="checkbox"/> 25. Pyridine
_____	<input type="checkbox"/> 2. Acetone		<input type="checkbox"/> 26. Tetrachloroethylene
_____	<input type="checkbox"/> 3. Benzene		<input type="checkbox"/> 27. Toluene
_____	<input type="checkbox"/> 4. n-Butyl alcohol		<input type="checkbox"/> 28. 1,1,1-Trichloroethane
_____	<input type="checkbox"/> 5. Carbon disulfide		<input type="checkbox"/> 29. 1,1,2-Trichloroethane
_____	<input type="checkbox"/> 6. Carbon tetrachloride		<input type="checkbox"/> 30. Trichloroethylene
_____	<input type="checkbox"/> 7. Chlorobenzene		<input type="checkbox"/> 31. 1,1,2-Trichloro-1,2,2-trifluoroethane
_____	<input type="checkbox"/> 8. o-Cresol		<input type="checkbox"/> 32. Trichloromono-fluoro-methane
_____	<input type="checkbox"/> 9. m-Cresol (difficult to distinguish from p-cresol)		<input type="checkbox"/> 33. Xylene - mixed
_____	<input type="checkbox"/> 10. p-Cresol (difficult to distinguish from m-cresol)		(sum of o-, m-, and p-xylene)
_____	<input type="checkbox"/> 11. Cresol - mixed isomers (sum of o-, m- and p-cresol)		
_____	<input type="checkbox"/> 12. Cyclohexanone		
_____	<input type="checkbox"/> 13. o-Dichlorobenzene		
_____	<input type="checkbox"/> 14. 2-Ethoxyethanol (F005 only)		
_____	<input type="checkbox"/> 15. Ethyl acetate		
_____	<input type="checkbox"/> 16. Ethyl benzene		
_____	<input type="checkbox"/> 17. Ethyl ether		
_____	<input type="checkbox"/> 18. Isobutyl alcohol		
_____	<input type="checkbox"/> 19. Methanol		
_____	<input type="checkbox"/> 20. Methylene chloride		
_____	<input type="checkbox"/> 21. Methyl ethyl ketone		
_____	<input type="checkbox"/> 22. Methyl isobutyl ketone		
_____	<input type="checkbox"/> 23. Nitrobenzene		
_____	<input type="checkbox"/> 24. 2-Nitropropane (F005 only)		

**SECTION III. CALIFORNIA LIST WASTES**

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE				
_____	Hazardous waste containing one or more of the following [ ] WW [ ] Non-WW California List constituents:		1	2	3	4	5
	[ ] ALL CALIFORNIA LIST CONSTITUENTS						
	[ ] Liquids with nickel greater than or equal to 134 mg/l						
	[ ] Liquids with thallium greater than or equal to 130 mg/l						
	[ ] Liquids with PCB's > or = 50 ppm						
	[ ] Waste containing HOC's > or = 1,000 mg/kg						

**SECTION IV. OTHER LISTED WASTES (F006-12, F019-F028, F037-38, F039, K-, U-, AND P-CODES)**

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE			
_____	_____	[ ] WW [ ] Non-WW	3	4	5	6
_____	_____	[ ] WW [ ] Non-WW	3	4	5	6
_____	_____	[ ] WW [ ] Non-WW	3	4	5	6
_____	_____	[ ] WW [ ] Non-WW	3	4	5	6
_____	_____	[ ] WW [ ] Non-WW	3	4	5	6

- [ ] CHECK HERE IF ADDITIONAL LISTED WASTE CODES ARE PRESENT. COMPLETE AND ATTACH LDR-1 CONTINUATION SHEET.
- [ ] CHECK HERE IF WASTE CODE F039 (MULTISOURCE LEACHATE) IS PRESENT. IDENTIFY F039 CONSTITUENTS BY COMPLETING SECTIONS II AND IV OF CHI FORM LDR-1 ADDENDUM AND ATTACH COMPLETED ADDENDUM TO THIS FORM.

**SECTION V. CONTACT NAME AND DATE**

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

**KEY TERMS/DEFINITIONS**

**CLASS I SDWA SYSTEM** means a Class I deep well facility regulated under the Safe Drinking Water Act (SDWA).

**CWA SYSTEM** means a centralized wastewater treatment facility discharging under a Clean Water Act (CWA) permit. For example, a CWA facility would treat organic or inorganic aqueous wastes and discharge the treated effluent to the local sewer system. Examples of CWA treatment systems owned and operated by Clean Harbors include the wastewater treatment operations at Baltimore (including the CES system), Bristol, Chicago, Cincinnati and Cleveland.

**CWA-EQUIVALENT SYSTEM** means a "zero discharge system" that engages in "CWA-equivalent" treatment before land disposal. Zero-discharge facilities treat hazardous wastes using "CWA-equivalent" treatment methods, but do not discharge the treatment effluent to a sewer or water body (e.g., spray irrigation land farm). "CWA-equivalent" treatment methods means biological treatment for organics, alkaline chlorination, or ferrous sulfate precipitation for cyanide, precipitation/sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

**HIGH TOC IGNITABLE LIQUIDS SUBCATEGORY** means an ignitable liquid hazardous waste (waste code D001) which contains greater than or equal to 10% total organic carbon (TOC). Pursuant to 40 CFR 268.40, such wastes must be treated using organic recovery (RORGs) or combustion (CMBST) technology. Examples of RORGs technologies include the CES unit at Clean Harbors of Baltimore. Examples of CMBST technologies include hazardous waste fuel blending and subsequent reuse at a cement kiln, or destruction at a RCRA incinerator.

**WASTEWATERS** are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). [See 40 CFR 268.2(f)]

**SECTION I. UNDERLYING HAZARDOUS CONSTITUENTS (UHC'S)**

- ☐ Check here if one or more of the constituents listed in Section IV below are reasonably expected to be present as an "Underlying Hazardous Constituent" in the waste. Then in Section IV, check off each constituent. Note that per the definition of UHC in 40 CFR 268.2, fluoride, selenium, sulfides, vanadium and zinc are NOT regulated as UHC's.
- ☐ Check here if NONE of the UHC constituents listed in Section IV are expected to be present in the waste.

**SECTION II. MULTI-SOURCE LEACHATE (WASTE CODE F039)**

- ☐ Check here if one or more of the constituents listed in Section IV are present as a constituent in the multi-source leachate (F039) waste. Then in Section IV below, check off each constituent. Note that constituents which are identified by an asterisk (\*) are NOT regulated as F039 constituents.
- ☐ Check here if NONE of the F039 constituents listed in Section IV are present in the waste.

**SECTION III. HAZARDOUS DEBRIS CONTAMINANTS SUBJECT TO TREATMENT (CSTT)**

- ☐ Check here if one or more of the constituents listed in Section IV is a CSTT for hazardous debris that is intended for treatment using the alternate treatment technologies in 40 CFR 268.45. To identify CSTT's, refer to the "Regulated Hazardous Constituent" column in the Treatment Standard Table in 40 CFR 268.40. Then, in Section IV below, check off the constituents that appear for each waste code used to identify the debris.
- ☐ Check here if the entry in the "Regulated Hazardous Constituent" column in the Treatment Standard Table in 40 CFR 268.40 is "Not Applicable", i.e. D001, D002, and D003 (non-cyanides subcategories only).

**SECTION IV. LIST OF CONSTITUENTS - INCLUDE MANIFEST LINE ITEM**

- |  |  |
|--|--|
| 34. <input type="checkbox"/> Acenaphthylene  | 260. <input type="checkbox"/> Carbofuran phenol (*)                            |
| 35. <input type="checkbox"/> Acenaphthene  | 70. <input type="checkbox"/> Carbon disulfide                                  |
| 36. <input type="checkbox"/> Acetone   | 71. <input type="checkbox"/> Carbon tetrachloride                              |
| 37. <input type="checkbox"/> Acetonitrile  | 261. <input type="checkbox"/> Carbosulfan (*)                                  |
| 38. <input type="checkbox"/> Acetophenone  | 72. <input type="checkbox"/> Chlordane (alpha and gamma isomers)               |
| 39. <input type="checkbox"/> 2-Acetylaminofluorene   | 73. <input type="checkbox"/> p-Chloroaniline                                   |
| 40. <input type="checkbox"/> Acrolein  | 74. <input type="checkbox"/> Chlorobenzene                                     |
| 41. <input type="checkbox"/> Acrylamide (*)  | 75. <input type="checkbox"/> Chlorobenzilate                                   |
| 42. <input type="checkbox"/> Acrylonitrile   | 76. <input type="checkbox"/> 2-Chloro-1,3-butadiene                            |
| 251. <input type="checkbox"/> Aldicarb sulfone (*)   | 77. <input type="checkbox"/> Chlorodibromomethane                              |
| 43. <input type="checkbox"/> Aldrin  | 78. <input type="checkbox"/> Chloroethane                                      |
| 44. <input type="checkbox"/> 4-Aminobiphenyl   | 79. <input type="checkbox"/> bis(2-Chloroethoxy)methane                        |
| 45. <input type="checkbox"/> Aniline   | 80. <input type="checkbox"/> bis(2-Chloroethyl)ether                           |
| 46. <input type="checkbox"/> Anthracene  | 81. <input type="checkbox"/> Chloroform  |
| 47. <input type="checkbox"/> Antimony  | 82. <input type="checkbox"/> bis(2-Chloroisopropyl)ether                       |
| 48. <input type="checkbox"/> Aramite   | 83. <input type="checkbox"/> p-Chloro-m-cresol                                 |
| 49. <input type="checkbox"/> Arsenic   | 84. <input type="checkbox"/> 2-Chloroethyl vinyl ether (*)                     |
| 50. <input type="checkbox"/> alpha-BHC   | 85. <input type="checkbox"/> Chloromethane (Methyl Chloride)                   |
| 51. <input type="checkbox"/> beta-BHC  | 86. <input type="checkbox"/> 2-Chloronaphthalene                               |
| 52. <input type="checkbox"/> delta-BHC   | 87. <input type="checkbox"/> 2-Chlorophenol                                    |
| 53. <input type="checkbox"/> gamma-BHC   | 88. <input type="checkbox"/> 3-Chloropropylene                                 |
| 252. <input type="checkbox"/> Barban (*)   | 89. <input type="checkbox"/> Chromium (Total)                                  |
| 54. <input type="checkbox"/> Barium  | 90. <input type="checkbox"/> Chrysene  |
| 253. <input type="checkbox"/> Bendiocarb (*)   | 91. <input type="checkbox"/> o-Cresol  |
| 255. <input type="checkbox"/> Benomyl (*)  | 92. <input type="checkbox"/> m-Cresol (difficult to distinguish from p-Cresol) |
| 55. <input type="checkbox"/> Benzene   | 93. <input type="checkbox"/> p-Cresol (difficult to distinguish from o-Cresol) |
| 56. <input type="checkbox"/> Benz(a)anthracene   | 262. <input type="checkbox"/> m-Cumenyl methylcarbamate (*)                    |
| 57. <input type="checkbox"/> Benzal chloride (*)   | 94. <input type="checkbox"/> Cyanides (Total)                                  |
| 58. <input type="checkbox"/> Benzo(b)fluoranthene (difficult to distinguish from Benzo(k)fluoranthene) | 95. <input type="checkbox"/> Cyanides (Amenable)                               |
| 59. <input type="checkbox"/> Benzo(k)fluoranthene (difficult to distinguish from Benzo(b)fluoranthene) | 263. <input type="checkbox"/> Cycloate (*)                                     |
| 60. <input type="checkbox"/> Benzo(g,h,i)perylene  | 96. <input type="checkbox"/> Cyclohexanone                                     |
| 61. <input type="checkbox"/> Benzo(a)pyrene  | 97. <input type="checkbox"/> 1,2-Dibromo-3-chloropropane                       |
| 62. <input type="checkbox"/> Beryllium   | 98. <input type="checkbox"/> 1,2-Dibromoethane (Ethylene dibromide)            |
| 63. <input type="checkbox"/> Bromodichloromethane  | 99. <input type="checkbox"/> Dibromomethane                                    |
| 64. <input type="checkbox"/> Bromomethane (Methyl bromide)   | 100. <input type="checkbox"/> 2,4-Dichlorophenoxyacetic acid (2,4-D)           |
| 65. <input type="checkbox"/> 4-Bromophenyl phenyl ether  | 101. <input type="checkbox"/> o,p'-DDD   |
| 66. <input type="checkbox"/> n-Butyl alcohol   | 102. <input type="checkbox"/> p,p'-DDD   |
| 256. <input type="checkbox"/> Butylate (*)   | 103. <input type="checkbox"/> o,p'-DDE   |
| 67. <input type="checkbox"/> Butyl benzyl phthalate  | 104. <input type="checkbox"/> p,p'-DDE   |
| 68. <input type="checkbox"/> 2-sec-Butyl-4,6-dinitrophenol (Dinoseb)                                   | 105. <input type="checkbox"/> o,p'-DDT   |
| 69. <input type="checkbox"/> Cadmium   | 106. <input type="checkbox"/> p,p'-DDT   |
| 257. <input type="checkbox"/> Carbaryl (*)   | 107. <input type="checkbox"/> Dibenz(a,h)anthracene                            |
| 258. <input type="checkbox"/> Carbendazim (*)  | 108. <input type="checkbox"/> Dibenzo(a,e)pyrene                               |
| 259. <input type="checkbox"/> Carbofuran (*)   | 109. <input type="checkbox"/> m-Dichlorobenzene                                |
|  | 110. <input type="checkbox"/> o-Dichlorobenzene                                |
|  | 111. <input type="checkbox"/> p-Dichlorobenzene                                |

- |            |  |            |  |
|------------|--|------------|--|
| 112. _____ | [ ] Dichlorodifluoromethane                            | 176. _____ | [ ] Methapyrilene  |
| 113. _____ | [ ] 1,1-Dichloroethane                                 | 272. _____ | [ ] Methiocarb (*)                                       |
| 114. _____ | [ ] 1,2-Dichloroethane                                 | 273. _____ | [ ] Methomyl (*)   |
| 115. _____ | [ ] 1,1-Dichloroethylene                               | 177. _____ | [ ] Methoxychlor   |
| 116. _____ | [ ] trans-1,2-Dichloroethylene                         | 178. _____ | [ ] 3-Methylcholanthrene                                 |
| 117. _____ | [ ] 2,4-Dichlorophenol                                 | 179. _____ | [ ] 4,4-Methylene-bis(2-chloroaniline)                   |
| 118. _____ | [ ] 2,6-Dichlorophenol                                 | 180. _____ | [ ] Methylene chloride                                   |
| 119. _____ | [ ] 1,2-Dichloropropane                                | 181. _____ | [ ] Methyl ethyl ketone                                  |
| 120. _____ | [ ] cis-1,3-Dichloropropylene                          | 182. _____ | [ ] Methyl isobutyl ketone                               |
| 121. _____ | [ ] trans-1,3-Dichloropropylene                        | 183. _____ | [ ] Methyl methacrylate                                  |
| 122. _____ | [ ] Dieldrin   | 184. _____ | [ ] Methyl methansulfonate                               |
| 123. _____ | [ ] Diethyl phthalate                                  | 185. _____ | [ ] Methyl parathion                                     |
| 124. _____ | [ ] 2,4-Dimethyl phenol                                | 274. _____ | [ ] Metolcarb (*)  |
| 125. _____ | [ ] Dimethyl phthalate                                 | 275. _____ | [ ] Mexacarbate (*)                                      |
| 126. _____ | [ ] Di-n-butyl phthalate                               | 276. _____ | [ ] Molinate (*)   |
| 127. _____ | [ ] 1,4-Dinitrobenzene                                 | 186. _____ | [ ] Naphthalene  |
| 128. _____ | [ ] 4,6-Dinitro-o-cresol                               | 187. _____ | [ ] 2-Naphthylamine                                      |
| 129. _____ | [ ] 2,4-Dinitrophenol                                  | 188. _____ | [ ] Nickel   |
| 130. _____ | [ ] 2,4-Dinitrotoluene                                 | 189. _____ | [ ] o-Nitroaniline (*)                                   |
| 131. _____ | [ ] 2,6-Dinitrotoluene                                 | 190. _____ | [ ] p-Nitroaniline                                       |
| 132. _____ | [ ] Di-n-octyl phthalate                               | 191. _____ | [ ] Nitrobenzene   |
| 133. _____ | [ ] p-Dimethylaminoazobenzene (*)                      | 192. _____ | [ ] 5-Nitro-o-toluidine                                  |
| 134. _____ | [ ] Di-n-propylnitrosoamine                            | 193. _____ | [ ] o-Nitrophenol (*)                                    |
| 135. _____ | [ ] 1,4-Dioxane (*)                                    |            | diphenylnitrosamine)                                     |
| 136. _____ | [ ] Diphenylamine (difficult to distinguish from       | 194. _____ | [ ] p-Nitrophenol  |
| 137. _____ | [ ] Diphenylnitrosamine (difficult to distinguish from | 195. _____ | [ ] N-Nitrosodiethylamine                                |
|            | diphenylamine)   | 196. _____ | [ ] N-Nitrosodimethylamine                               |
| 138. _____ | [ ] 1,2-Diphenylhydrazine                              | 197. _____ | [ ] N-Nitroso-di-n-butylamine                            |
| 139. _____ | [ ] Disulfoton   | 198. _____ | [ ] N-Nitrosomethylethylamine                            |
| 266. _____ | [ ] Dithiocarbamates (Total) (*)                       | 199. _____ | [ ] N-Nitrosomorpholine                                  |
| 140. _____ | [ ] Endosulfan I                                       | 200. _____ | [ ] N-Nitrosopiperidine                                  |
| 141. _____ | [ ] Endosulfan II                                      | 201. _____ | [ ] N-Nitrosopyrrolidine                                 |
| 142. _____ | [ ] Endosulfan sulfate                                 | 277. _____ | [ ] Oxamyl (*)   |
| 143. _____ | [ ] Endrin   | 202. _____ | [ ] Parathion  |
| 144. _____ | [ ] Endrin aldehyde                                    | 203. _____ | [ ] Total PCBs (sum of all PCB isomers, or all Aroclors) |
| 267. _____ | [ ] EPTC (*)   | 278. _____ | [ ] Pebulate (*)   |
| 145. _____ | [ ] Ethyl acetate                                      | 204. _____ | [ ] Pentachlorobenzene                                   |
| 146. _____ | [ ] Ethyl cyanide (propanenitrile)                     | 205. _____ | [ ] PeCDDs (All pentachlorodibenzo- p-dioxins)           |
| 147. _____ | [ ] Ethyl benzene                                      | 206. _____ | [ ] PeCDFs (All pentachlorodibenzofurans)                |
| 148. _____ | [ ] Ethyl ether  | 207. _____ | [ ] Pentachloroethane (*)                                |
| 149. _____ | [ ] bis(2-Ethylhexyl)phthalate                         | 208. _____ | [ ] Pentachloronitrobenzene                              |
| 150. _____ | [ ] Ethyl methacrylate                                 | 209. _____ | [ ] Pentachlorophenol                                    |
| 151. _____ | [ ] Ethylene oxide                                     | 210. _____ | [ ] Phenacetin   |
| 152. _____ | [ ] Famphur  | 211. _____ | [ ] Phenanthrene   |
| 153. _____ | [ ] Fluoranthene                                       | 212. _____ | [ ] Phenol   |
| 154. _____ | [ ] Fluorene   | 213. _____ | [ ] Phorate  |
| 155. _____ | [ ] Fluoride   | 214. _____ | [ ] Phthalic acid (*)                                    |
| 268. _____ | [ ] Formetanate hydrochloride (*)                      | 215. _____ | [ ] Phthalic anhydride                                   |
| 156. _____ | [ ] Heptachlor   | 280. _____ | [ ] Physostigmine (*)                                    |
| 157. _____ | [ ] Heptachlor epoxide                                 | 281. _____ | [ ] Physostigmine salicylate (*)                         |
| 158. _____ | [ ] Hexachlorobenzene                                  | 282. _____ | [ ] Promecarb (*)  |
| 159. _____ | [ ] Hexachlorobutadiene                                | 216. _____ | [ ] Pronamide  |
| 160. _____ | [ ] Hexachlorocyclopentadiene                          | 283. _____ | [ ] Protham (*)  |
| 161. _____ | [ ] HxCDDs (All hexachlorodibenzo-p-dioxins)           | 284. _____ | [ ] Propoxur (*)   |
| 162. _____ | [ ] HxCDFs (All hexachlorodibenzo-furans)              | 285. _____ | [ ] Prosulfocarb (*)                                     |
| 163. _____ | [ ] Hexachloroethane                                   | 217. _____ | [ ] Pyrene   |
| 164. _____ | [ ] Hexachloropropylene                                | 218. _____ | [ ] Pyridine   |
| 165. _____ | [ ] Indeno (1,2,3-c,d)pyrene                           | 219. _____ | [ ] Safrole  |
| 270. _____ | [ ] 3-Iodo-2-propynyl n-butylcarbamate (*)             | 220. _____ | [ ] Selenium   |
| 166. _____ | [ ] Iodomethane  | 221. _____ | [ ] Silver   |
| 167. _____ | [ ] Isobutyl alcohol                                   | 222. _____ | [ ] Silvex (2,4,5-TP)                                    |
| 168. _____ | [ ] Isodrin  | 223. _____ | [ ] Sulfide  |
| 169. _____ | [ ] Isosafrole   | 224. _____ | [ ] 2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)          |
| 170. _____ | [ ] Kepone   | 225. _____ | [ ] 1,2,4,5-Tetrachlorobenzene                           |
| 171. _____ | [ ] Lead   | 226. _____ | [ ] TCDDs (All tetrachlorodibenzo- p-dioxins)            |
| 172. _____ | [ ] Mercury--Nonwastewater from Retort                 | 227. _____ | [ ] TCDFs (All tetrachlorodibenzofurans)                 |
| 173. _____ | [ ] Mercury--All others                                | 228. _____ | [ ] 1,1,1,2-Tetrachloroethane                            |
| 174. _____ | [ ] Methacrylonitrile                                  | 229. _____ | [ ] 1,1,2,2-Tetrachloroethane                            |
| 175. _____ | [ ] Methanol   | 230. _____ | [ ] Tetrachloroethylene                                  |



- |   |  |
|---|--|
| 231. _____ <input type="checkbox"/> 2,3,4,6-Tetrachlorophenol   | 241. _____ <input type="checkbox"/> 2,4,5-Trichlorophenol  |
| 232. _____ <input type="checkbox"/> Thallium                    | 242. _____ <input type="checkbox"/> 2,4,6-Trichlorophenol  |
| 286. _____ <input type="checkbox"/> Thiocarb (*)                | 243. _____ <input type="checkbox"/> 1,2,3-Trichloropropane   |
| 287. _____ <input type="checkbox"/> Thiophanate-methyl (*)      | 244. _____ <input type="checkbox"/> 1,1,2-Trichloro-1,2,2-trifluoroethane                              |
| 233. _____ <input type="checkbox"/> Toluene                     | 290. _____ <input type="checkbox"/> Triethylamine (*)  |
| 234. _____ <input type="checkbox"/> Toxaphene                   | 245. _____ <input type="checkbox"/> tris-(2,3-Dibromopropyl)phosphate                                  |
| 289. _____ <input type="checkbox"/> Triallate (*)               | 246. _____ <input type="checkbox"/> Vanadium (*)   |
| 235. _____ <input type="checkbox"/> Tribromomethane (Bromoform) | 291. _____ <input type="checkbox"/> Vernolate (*)  |
| 236. _____ <input type="checkbox"/> 1,2,4-Trichlorobenzene      | 247. _____ <input type="checkbox"/> Vinyl chloride   |
| 237. _____ <input type="checkbox"/> 1,1,1-Trichloroethane       | 248. _____ <input type="checkbox"/> Xylenes—mixed isomers (sum of o-, m-, and p-xylene concentrations) |
| 238. _____ <input type="checkbox"/> 1,1,2-Trichloroethane       | 249. _____ <input type="checkbox"/> Zinc (*)   |
| 239. _____ <input type="checkbox"/> Trichloroethylene           |  |
| 240. _____ <input type="checkbox"/> Trichloromonofluoromethane  |  |

**KEY TERMS/DEFINITIONS**

CONTAMINANTS SUBJECT TO TREATMENT (CSTT) are the specific constituents listed by waste code number in the Treatment Standard Table in §268.40. CSTT's must be identified for all hazardous debris wastes that are intended for treatment using one of the hazardous debris alternate treatment technologies described in §268.45.

REASONABLY EXPECTED TO BE PRESENT means that the generator is relying on knowledge of the raw materials used, the process, and potential reaction products, or on the results of a one-time analysis for the entire list of UHC's that may be present in the untreated hazardous waste. If a one-time analysis of the entire list of UHC's is conducted, subsequent analyses are required for only those pollutants which would reasonably be expected to be present in the waste as generated, based on the previous sampling and analysis results.

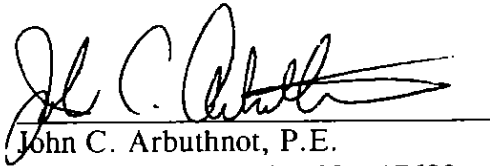
UNDERLYING HAZARDOUS CONSTITUENT (UHC) means any constituent listed in §268.48 Table UTS - Universal Treatment Standards (except fluoride, selenium, sulfides, vanadium and zinc) which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standard. [See 40 CFR 268.2]

**EXHIBIT D**

**WAP CERTIFICATION**

## CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

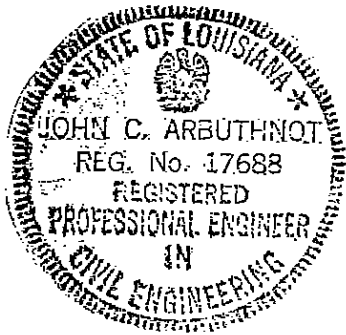
  
John C. Arbuthnot, P.E.

Louisiana Registration No. 17688

Senior Remediation Officer

Clean Harbors Environmental Services, Inc.

7/30/03  
Date



**APPENDIX H**  
**INSPECTION PLAN**

**CLEAN HARBORS COLFAX, LLC**  
**INSPECTION PLAN**

**CLEAN HARBORS COLFAX, LLC**

**INSPECTION PLAN**

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  - 2.1 Personnel Qualifications
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- 3.0 DAILY PROCESS UNIT INSPECTIONS
  - 3.1 Types of Potential Problems
  - 3.2 General Inspection Schedules
- 4.0 MONTHLY EMERGENCY EQUIPMENT INSPECTIONS

**FIGURES**

- Figure 1 Daily Process Unit Inspection
- Figure 2 Monthly Emergency Equipment Inspection

## **INSPECTION PLAN**

In accordance with the regulatory requirements set forth in the Louisiana Administrative Code (LAC) Title 33, Part V.1509, Clean Harbors Colfax, LLC has developed this Inspection Plan as an integral section of the Part II Permit Application for its thermal treatment located near Colfax, Louisiana. The procedures set forth in this plan are intended to show how this facility will be in compliance with applicable requirements of the LAC. A copy of this plan will be available at the facility at all times.

### **1.0 INTRODUCTION**

This Inspection Plan is intended to provide a mechanism to minimize and detect system malfunctions, equipment deterioration and operator errors which if allowed to continue without remedy may ultimately lead to a release of hazardous waste constituents to the environment or create a threat to human health. The Inspection Plan is designed to provide an early warning of the potential for such events in order that corrective and preventive actions may be taken in a timely manner.

The Inspection Plan is divided into two segments: (1) the daily process unit inspection and (2) the monthly emergency equipment inspection. The first one focuses on each individual area of the operation such as the burn area, the control building, the preparation building, and the storage magazines. The second segment involves site-wide emergency response equipment and miscellaneous related items.

The Inspection Program is implemented by qualified individuals who are assigned the responsibility to detect any unsafe conditions at the facility and prevent adverse consequences. The designated individuals have the training and authority to: (1) implement the required inspections; (2) perform necessary evaluations and hazard assessments; and (3) order appropriate corrective or remedial actions.

Inspections are performed according to a pre-determined schedule based on engineering knowledge and operational experience with the systems and processes involved. Each inspection item has the content and frequency necessary to alert facility personnel prior to development of a serious problem. A trained inspector evaluates, and assesses each item indicated for potential malfunctions, equipment deterioration or operation error through regular observation of the process and procedures. The level of response and its timing is determined by the nature and seriousness of the problem identified, with protection of personnel and the prevention of adverse environmental impact being of paramount concern.

## 2.0 INSPECTION PROGRAM ADMINISTRATION

The General Manager is fully responsible for implementation of the Inspection Program. The inspection function operates independently of all other facility functions related to operations. Properly trained personnel are designated with the staff responsibility for the inspections. Reports of the results of the inspections with appropriate documentation are completed each operating day and made available to the General Manager. The General Manager is responsible for ensuring that the appropriate corrective measures are implemented in a timely manner.

### 2.1 Personnel Qualifications

Personnel responsible for conducting inspections are trained in hazardous waste management, fundamentals of material hazards assessment, inspection and follow-up procedures, documentation and record-keeping requirements, and various safety and contingency plan procedures.

### 2.2 Hazard Assessment and Evaluation Procedures

The designated inspector must be familiar with the location of the equipment and systems to be inspected and their normal configuration. For any discrepancy observed, the inspector shall determine the potential for personnel injury or for release of hazardous waste constituents, and assess the nature and timing of remedial action required. His determination considers (1) the location and nature of the problem, (2) the presence of secondary containment or control, (3) the amount and type of waste material involved, (4) the potential for human exposure, and (5) the likelihood of waste migration.

The inspector maintains open lines of communication with the General Manager and other facility personnel who may assist with the corrective actions.

When an inspection indicates equipment malfunction or deterioration, or any other improper condition, at a minimum, the following actions are to be taken as appropriate:

- Assess the situation.
- Determine the corrective/remedial measures needed in response to the situation, including appropriate interim measures.
- Establish the time frame within which the remedial action must occur. For emergency or near-emergency situations, prompt verbal reports are made to the General Manager, to be followed later with written reports.



For minor discrepancies, routine written reporting procedures, as discussed later, will be followed.

- Provide adequate follow-up to verify that the specified response has occurred and that the situation has been resolved satisfactorily.

In general, all remedial actions and re-inspections are expected to be completed within the week following the initial inspection in which a deficiency was noted. In specific cases where urgent action is required, appropriate coordination with facility personnel and frequent monitoring of the situation by the inspector will be continued until remedial actions are completed. In cases where physical and/or operational constraints (e.g., replacement equipment availability) may require longer time frames to complete the corrective measures, the inspection report will document completion of the work.

### 2.3 Documentation and Record Keeping

Inspections are conducted and documented using forms specifically designed to contain pertinent information. Completed inspection forms are filed in the facility's Operating Record following completion of all applicable notations regarding corrective actions. In some instances, a remedial work order that describes more complex corrective actions may also accompany the inspection documents. All completed forms and attachments are accumulated in the facility operating record. These are retained at the facility for a minimum period of three years from the date of an inspection.

Separate inspection forms are provided for specified daily, weekly, monthly or other scheduled inspections. Each periodic inspection form (see Figures 1 through 5 for examples) includes required information, such as the identification of the facility unit, the name of the inspector, and the date and time of the inspection. These forms may be periodically modified (without necessitating a formal Permit Modification) to accommodate the changing needs of the facility. If the equipment or unit is not in use, it is inspected routinely, and a notation of its operational status is made. The inspector's assessments, including notations regarding the urgency of the required response, are marked on the form. Any significant discrepancy is reported immediately to the General Manager.

In summary, the inspector observes facility operations and equipment on a periodic basis in accordance with a specified schedule and inspection elements. The inspector will initiate the required corrective actions and note them on the inspection form. In the event that the corrective actions are too extensive or require additional actions on the part of the General Manager, a remedial work order form may be

created, and then corrective action is initiated. In any case, the corrective actions will be noted on the applicable inspection forms.

In cases where specialized outside contractors are used to perform testing or inspection services (i.e., fire extinguisher repairs, etc.), the results are reported on the contractor's forms. Such documentation is made part of the Operating Record when received.

### **3.0 DAILY PROCESS UNIT INSPECTIONS**

The process unit inspection activity encompasses the facility perimeter and those items within the permitted property (interior 43 acres) that are process-specific. These inspection activities encompass the following:

- Burn (Thermal Treatment) Area
- Control Building
- Preparation Building
- Storage Magazines and associated areas
- General Site and miscellaneous concerns

The general inspection schedules, including inspection parameters and frequencies, are determined by the types of problems that can potentially occur.

#### **3.1 Types of Potential Problems**

The following considerations are pertinent to identification of the types of problems that may occur related to facility operations:

- Breach of security, which may occur due to: (1) failure of the surveillance system, (2) damage to fences, natural barriers or entry control structures, or (3) obstruction, damage or loss of warning signs.
- Unplanned releases not detected by environmental monitoring equipment due to malfunction or failure. Such problems may occur due to failure of flood protection or other containment structures if these are not kept in good repair.
- Health and safety equipment failure, absence or inaccessibility.

#### **3.2 Inspection Schedules**

The inspection schedules are based on the facility's operational mode, potential failure modes, and an assessment of the hazard magnitude posed by a particular

malfunction, failure or discrepancy. The inspection schedules are included as attachments to this Inspection Plan. The schedules include each inspection element, the types of potential problems that could be encountered, and the frequency (at a minimum) at which the inspections will occur. All "daily" inspections will be completed during each operating day. Inasmuch as the regulatory requirements for these units involve only weekly inspection frequencies, this inspection schedule significantly exceeds the regulatory requirements. Therefore, weekend or holiday inspections are not considered necessary.

#### **4.0 MONTHLY EMERGENCY EQUIPMENT INSPECTIONS**

On no less than a monthly basis, the facility will conduct inspections of its emergency equipment. This inspection includes such items as fire extinguishers, PPE supplies, First Aid Kits, and Safety Showers. These inspections notwithstanding, the facility recognizes that it must replace or replenish any emergency supplies that may be utilized during an actual emergency. This activity is done as quickly as practical following a situation where one or more pieces of emergency equipment are utilized.

**FIGURE 1**  
**DAILY PROCESS UNIT INSPECTION**

BEST COPY

**Clean Harbors Colfax, LLC  
Daily Process Unit Inspection**

Date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Time: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

Instructions: Inspections must be conducted once per day when the facility is in operation. If the item/area is fully satisfactory, place a circle around the "S." If the item/area is unsatisfactory, place a circle around the "U." If comments are warranted, (whether satisfactory or not), circle the "C" and include any comments. All unsatisfactory items must include corrective actions, the date of the corrective actions, and the initials of the person completing or confirming the corrective actions.

Item/Area	Potential Problem	Observation	Comments or Corrective Action
<b>Burn Area</b>			
Igniter Stand, Cords	Broken, loose, exposed wiring	S U C	
Slab Valves	Leaks, nonfunctional, damaged, or clogged	S U C	
<b>Control Building</b>			
Control Switches (Box)	Nonfunctional, unsecured	S U C	
Locks (1 each)	Damaged, tampered	S U C	
Warning Signal/Horn	Light out, horn broken, wire damaged	S U C	
<b>Preparation Building</b>			
Floor	Deterioration of concrete, spillage, cracks, pits	S U C	
Walls/Roof/Support	Deterioration of metal, wood, cracks, holes sprung fasteners, bent supports	S U C	
Locks (5 each)	Damaged, tampered	S U C	
Hazardous Ash Storage Area	Leaks/spills, markings/labels, not in designated area, standing water	S U C	
Saws (3 each)	Visual inspection only-hydraulic leaks, saw missing, contamination present	S U C	
<b>Storage Magazines</b>			
Shell/Roof/Floor	Deterioration of wood and metal, holes, cracks, bulges, corrosion	S U C	
Door	Deterioration of wood and metal, holes, cracks, bulges, corrosion, sticking, damaged door handles	S U C	
Locks (2 per magazine)	Deterioration, malfunction, corrosion, tampered/damaged, not secured	S U C	
Vents	Holes, rips, or blockage of vents	S U C	
Containers (boxes, crates, drums, etc.)	Aisle space, stack heights, improper labeling, damaged labels, leaks,	S U C	
Explosive Signs	Missing, not visible, damaged	S U C	
Magazine Buffer Zone (25')	Leaves, tall grass, trash on ground, spilled materials	S U C	
Housekeeping	Trash in magazines, dirty floors, tools left in magazines	S U C	
<b>General</b>			
Fence Condition (43-acre Perimeter)	Deterioration of chain links or barbed wire, corrosion, holes, dented, bent, tampered, damaged	S U C	
Gates # 1, 2, 3 and 4	Not closed, unsecured, damaged, malfunction of locks	S U C	
Communications Equipment (Radios)	Non-operational	S U C	
Danger Signs	Missing, not visible, damaged	S U C	
Roads, Fire Lanes	Erosion, holes, grading not maintained,	S U C	
Housekeeping	Trash, tall grass, trees/limbs on ground	S U C	

**FIGURE 2**

**MONTHLY EMERGENCY RESPONSE EQUIPMENT INSPECTION**

**BEST COPY**



**Clean Harbors Colfax, LLC**  
**Monthly Emergency Equipment Inspection**

Date: \_\_\_\_\_

Completed By: \_\_\_\_\_

Time: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

Instructions: Inspections must be conducted once per month. If the area is fully satisfactory, place a check mark in the space. If there are problems, note them in the comments section. All comments related to unsatisfactory items must be addressed by noting the corrective actions, the date of the corrective actions, and the initials of the person completing or confirming the corrective actions.

Fire Extinguishers	In Place	Charge	Seal	Inspection Date/Tag	Comments
1. Company Truck (red)					
2. Company Truck (grey)					
3. Main Office					
4. Guard Office					
5. Mule # 1					
6. Mule # 2					
7. Tractor					
8. Fork Lift					
9. Control Building					
10. Control Building Spare					
11. Truck Staging Building					
12. Truck Staging Building					
13. Truck Staging Building					
14. Truck Staging Building					
15. Truck Staging Building					
16. Truck Staging Building					
17. Liquid Storage Building					
18. Liquid Storage Building					
19. Liquid Staging Building					
20. Liquid Staging Building					
21. Liquid Staging Building					
22. Liquid Staging Building					
23. New Preparation Building					
24. New Preparation Building					
25. New Preparation Building					
26. New Preparation Building					
27. Front End Loader					
28. Break Room					
29. Conference Room					
30. Maintenance Building					
31. Maintenance Building					
Lighting	Operable	Non-Operable or Inadequate		Comments	
Waste Management Area Lighting/Floodlights					
Eyewash Units	Water Pressure	Operable	Non-Operable	Comments	
1. Preparation Building					
2. Maintenance Building					
PPE, First Aid Kits, Absorbent	In Place	Missing or Inadequate		Comments	
1. PPE Supply (Prep Bldg/Control Bldg)					
2. First Aid Kits (Prep Bldg/Office/Trucks)					
3. Emergency Response Kits					

Additional Comments:

**APPENDIX I**

**CONTINGENCY PLAN**

**CLEAN HARBORS COLFAX, LLC**

**CONTINGENCY PLAN**

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### APPENDICES

#### APPENDIX

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| B | Spill Control Equipment   |
| C | Decontamination Equipment |

## **COPIES OF THE CLEAN HARBORS COLFAX, LLC CONTINGENCY PLAN**

Official copies of the approved Contingency Plan (approved by the Louisiana Department of Environmental Quality) can be found at the locations indicated below. Whenever this Contingency Plan is modified, revisions will be provided in order to replace all copies of the Plan.

Clean Harbors Colfax, LLC, Colfax, Louisiana:

- General Manager's Office
- Operation Manager's Office
- Guard's Office
- Control Room at Burn Unit

Additionally, copies of the Contingency Plan will be provided to the following organizations:

- Louisiana Department of Environmental Quality
- Hazardous Waste Division
- Baton Rouge, Louisiana

- Grant Medical Center
- Colfax, Louisiana

- Grant Parish Sheriff's Office
- Colfax, Louisiana

- Colfax Volunteer Fire Department
- Colfax, Louisiana

- Grant Parish Office of
- Louisiana Emergency Preparedness Committee (LEPC)
- Colfax, Louisiana
- Louisiana State Police Emergency Response
- Baton Rouge, Louisiana

## **I. INTRODUCTION AND PURPOSE**

This Contingency Plan has been prepared in accordance with the State of Louisiana Hazardous Waste Regulations (LAC 33:V.1513) and as required by the hazardous waste permit for the facility. The Contingency Plan was approved along with the general permit to operate a TSD facility by the USEPA, Region 6 and the Louisiana Department of Environmental Quality on May 16, 1993. The purpose of this plan is to document procedures designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned, sudden or non-sudden release of hazardous waste to air, soil or surface water at the Clean Harbors Colfax, LLC facility. Provisions of the plan will be implemented immediately whenever there is a fire, explosion or the release of hazardous waste, which could threaten human health or the environment.

## **II. GENERAL INFORMATION**

This Contingency Plan has been prepared for the Clean Harbors Colfax, LLC facility located on Louisiana Highway 471, 5 miles northeast of Colfax, Louisiana.

Clean Harbors Colfax, LLC specializes in the thermal treatment of hazardous waste explosives and reactives. Residues are collected and sent to proper disposal facilities.

Every effort has been made to anticipate any fire, explosion or unplanned, sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface waters that could occur at this facility.

### **A. Hazardous Waste Units**

The hazardous waste units at Clean Harbors Colfax, LLC include 10 storage magazines (explosives), 20 treatment units on a concrete pad, one truck staging building, one unloading building, and one preparation building. The locations of these facilities and general facility layout are shown on Figure 1.

### **B. Hazardous Wastes**

The specific hazardous wastes handled for treatment at Clean Harbors Colfax, LLC are listed in the Part A Application for the facility. Essentially all incoming wastes are hazardous and include the D003 EPA waste code designation. The materials are explosive or otherwise reactive and may also be flammable. The following EPA waste codes may be managed at the facility: D001, D002, D003, D004, D005, D006, D007, D008, D010, D011, D030, K044, K045, K046, P009, P048, P065, P081, P105, P112, U069, U088, U096, U105, U108, U115, U117, U133, U160, and U234.



### **III. IMPLEMENTATION OF THE CONTINGENCY PLAN**

#### **A. Contingency Plan Implementation Criteria**

The decision to implement the Contingency Plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. The purpose of this Section is to provide guidance to the Emergency Coordinator in making this decision by providing decision-making criteria.

The Contingency Plan will be implemented in the following situations:

1. Fire and/or Explosion
  - a. A fire causes the release of toxic fumes.
  - b. The fire spreads and could possibly ignite materials at other locations on-site or could cause heat-induced explosions.
  - c. The fire could possibly spread to off-site areas.
  - d. An imminent danger exists that an explosion could occur, causing a safety hazard because of flying fragments or shock waves.
  - e. An imminent danger exists that an explosion could ignite other hazardous waste at the facility.
  - f. An imminent danger exists that an explosion could result in the release of toxic material.
  - g. An explosion has occurred.
2. Spills or Material Release
  - a. The spill could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.
  - b. The spill could cause the release of toxic liquid fumes.
3. Hurricane Events

#### **B. Emergency Response Procedures**

Emergency response procedures will be implemented for the following situations:

1. Fires and/or explosions

2. Discharge, release or spills
3. Hurricane events (that threaten employee safety or facility property)

1. **Fires and/or Explosions**

In the event of a fire or explosion, the following procedures will be implemented:

- a. If an employee observes an incident -- Notify Emergency Coordinator immediately, using telephone or plant radio. During holidays, weekends and off hours, the guard shall notify the Colfax Volunteer Fire Department. The guard shall also notify one of the coordinators listed in Section IV.
- b. Remain in the area at a safe distance until help arrives.
- c. The Emergency Coordinator will immediately review the incident and summon additional assistance as needed. Section VII.A provides the list of available outside assistance.
- d. Duties of the Emergency Coordinator are described in Section IV.A.
- e. No effort will be made to fight fires involving explosives on the facility.

2. **Discharges, Releases, or Spills**

Any person observing, being involved with or recognizing a discharge, release or spill of hazardous waste is responsible to:

- a. Identify the problem to the best of his ability, taking his own safety into account.
- b. Immediately notify the Emergency Coordinator or alternate, providing a brief description of the problem.
- c. Take the following measures to stop and/or contain the release only if there is no danger to human health:
  1. Stop the container from leaking if it can be accomplished without endangering human health.
  2. Contain the spill if possible.
  3. Apply absorbent material on spill.

- d. Await further inspections from the Emergency Coordinator. Following notification, the Emergency Coordinator or alternate will direct responses for containment clean-up and disposal in the case of a discharge, release or spill.

### **Major Spills**

Release of hazardous substances above the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), Section 102(a) "reportable quantity" (referred to as major releases throughout this Plan) might occur in areas inside and outside of diked areas. Response to releases within the diked areas, which provide immediate containment and outside of diked areas, are addressed separately. Procedures for notification of major spills are provided in Subsection 2.c. Appendix B lists the available emergency equipment and location of such equipment for responding to major spills. Figure 1 provides a site plan.

- a. **Within Diked Areas**

Diked areas are present around all hazardous waste liquid storage areas. Upon the detection of a spill by any plant personnel, the emergency coordinator (or an alternate emergency coordinator) will be notified immediately.

Under the direction of the Emergency Coordinator, the following procedures will be used to respond to a release inside a diked area.

1. Immediately secure leaking equipment, either by temporary or permanent means.
2. Immediately prevent the spread of the spill outside of the diked area, if possible, or secure an absorbent material (i.e., floor dry, sand, earth, etc.) or any material to minimize the spread of the spill.
3. Personnel performing clean up must wear the appropriate personal protection equipment as specified by the Emergency Coordinator. Additional safety equipment may be necessary depending upon the type of spill.
4. Recover the spilled material, if appropriate. Unrecoverable materials will be cleaned up by using the appropriate absorbent materials and disposed of in the appropriate manner.
5. All materials cleaned up or utilized during clean up of the spill that are contaminated are to be prepared for storage and/or disposal in the appropriate manner.

6. All materials cleaned up or utilized during clean up of the spill that are contaminated are to be prepared for storage and/or disposal. All material must be put into DOT approved containers and properly labeled. All containers are to be moved to the appropriate area until disposal can be arranged. All information about the containers prepared for storage is to be recorded by the Emergency Coordinator.
7. After clean up of a spill, all contaminated materials will be disposed of in an appropriate, approved manner.

b. Outside Diked Areas

Under the direction of the Emergency Coordinator, the following procedures will be used to respond to a release outside of a diked area.

1. Immediately secure the leaking equipment either by temporary or permanent means.
2. Immediately prevent the spread of the spill outside of the diked area, if possible, or secure an absorbent material (i.e., floor dry, sand, earth, etc.) or any material to minimize the spread of the spill.
3. Personnel performing clean up must wear the appropriate personal protection equipment as specified by the Emergency Coordinator. Additional safety equipment may be necessary depending upon the type of spill.
4. Recover the spilled material, if appropriate. Unrecoverable materials will be cleaned up by using the appropriate absorbent materials and/or disposed in the appropriate manner.
5. All materials cleaned up or utilized during clean up of the spill that are contaminated are to be prepared for storage and/or disposal. All material must be put into DOT approved containers and properly labeled. All containers are to be moved to the appropriate area until disposal can be arranged. All information about the containers prepared for storage is to be recorded by the Emergency Coordinator.
6. After clean up of a spill, all contaminated materials will be disposed of in an appropriate, approved manner.

c. Notification of Major Spills

In the event of a major spill at the facility, the following agencies must be notified by the Emergency Coordinator or designee:

- |  |              |
|--|--------------|
| - National Response Center                         | 800-424-8802 |
| - U. S. EPA, Region 6                              | 214-655-2222 |
| - LA State Police<br>Hazardous Materials Unit      | 225-925-6925 |
| - Louisiana Department of<br>Environmental Quality | 225-219-5181 |
| - Grant Parish Sheriff's<br>Office                 | 318-627-3261 |

These notifications will be completed in accordance with regulatory requirements either by the Primary Emergency Coordinator or designee or by the Environmental Compliance Manager for the facility.

### **Minor Spills**

Small volume spills on plant floors, outdoor drives, etc., will be immediately cleaned up with absorbent materials and placed in DOT approved containers and labeled. All precautions will be taken to prevent such spills from reaching floor drains or storm sewers. Appendix B lists the available spill control equipment, including the equipment necessary to respond to minor spills. Any spill that exceeds the reportable quantities requires notification to the appropriate agencies. The DOT regulations list the reportable quantities for each type of waste that may be processed at the Colfax facility.

### **3. Hurricane Procedures**

The purpose of this section of the procedure is to reduce, to the extent possible, the likelihood of injury to personnel, damage to property or loss of production due to a hurricane. Although in most cases when a hurricane hits the coastal areas, significant weakening occurs prior to reaching the Colfax area, there are occasions when hurricanes can produce very strong winds and torrential rainfall in the area of the facility. For this reason, these procedures are considered necessary. The hurricane season in the Atlantic, Caribbean, and Gulf of Mexico runs from June 1-November 30 of each year.

In general, the approach will be to take preliminary steps to minimize damage due to winds and flooding and then, if the hurricane approaches, curtail operations in such a manner as to

have the facility in the safest condition under the circumstances.

Included in these plans is a shut down schedule for the facility. This is a guide and will be adjusted or modified to best meet the conditions existing at the time.

Food and sleeping accommodations will be provided for those required to remain at the facility on a continuous basis, if deemed necessary by the Emergency Coordinator.

To efficiently carry out all of these hurricane emergency plans, certain people have been given special hurricane emergency assignments as indicated on the following pages.

Definitions:

Hurricane Watch - means a hurricane may threaten an area within 24-48 hours.

Hurricane Warning - means a hurricane is expected to strike an area within 24 hours.

National Hurricane Center - means the agency responsible for issuing advisories concerning hurricanes and other tropical systems.

Weather Bureau Report - means the official National Weather Service or similar agency that provides weather reports and guidance generally issued at four hour intervals by National Weather Service in New Orleans, Louisiana

a. Phase I (Beginning of Season)

1. Survey all guy wires and need for any wires (temporary buildings).
2. Survey drainage and make sure all sewers and drainage areas are in good order. Make sure any sump pumps work.
3. Survey all emergency generators and standby equipment.
4. Survey all metal coverings and roofing for likelihood of being blown loose and have necessary repairs made.
5. Check portable generators for operability. Store in an accessible area.

b. Phase II (Hurricane Watch 24-48 Hours in Advance)

1. General clean up campaign. Eliminate or secure all loose objects.
2. Survey all metal coverings and roofing for likelihood of being blown

loose and have necessary repairs made.

3. Survey all guy wires and need for guy wires (temporary buildings, etc.).
4. Survey all emergency generators and standby equipment.
5. Survey drainage and make sure all sewers are draining and in good order.
6. Determine need for air compressor.
7. Ample supply of flashlights and batteries should be assured.
8. Since the facility currently has only mobile offices, the plant will be shut down and employees sent home in the event that hurricane-force winds are anticipated.
9. Contractors working in the plant will be required to clean up their construction area (remove scaffold boards, tie down portable buildings, etc.).
10. The Facility Manager or designated alternate, will see to the coordination of all hurricane preparations and, when necessary, facility shutdown.

c. Phase III (Hurricane Warning - 12 Hours in Advance)

1. Secure all containers, scaffold material, etc., that could be blown by wind. When feasible, tie individual items into large bundles or groups to help prevent movement from the wind.
2. Tie down all portable buildings, especially in the vicinity of critical equipment such as transformer stations.
3. All booms, cranes, dock booms, etc., should be lowered and secured. All gantries should be secured.
4. Spot portable generators at maintenance building.
5. Tape all glass that has both dimensions larger than 18".
6. Fill all trucks and other equipment with fuel. (Cannot pump gasoline during power failure.) Fill 55-gallon containers and have hand pumps

available.

7. Emergency drinking water should be stored.
8. The course and speed of the hurricane will be monitored by the Facility Manager. When it becomes apparent that a hurricane will move into the Colfax area, the following steps will be taken:
  - About eight (8) hours before the hurricane is expected to hit, volunteers will be called to the facility to begin preparation of facility shutdown.
  - About six (6) hours before the hurricane-force winds are expected to hit, the order to shut down the facility will be given by the Facility Manager. At this time, the shutdown plans will go into effect.
  - The loss of electrical power during the hurricane is to be expected.
  - The office personnel will cover equipment to protect them from windows blowing out or leaking roofs. Offices will be expected to get wet, so efforts will be made to store papers and books in appropriate places.
9. Operating personnel at the plant will be released at least two (2) hours prior to a hurricane hitting the area.



#### IV. HAZARDOUS WASTE EMERGENCY COORDINATORS

Clean Harbors Colfax, LLC maintains a list of employees who are capable of carrying out the responsibilities of Emergency Coordinator at all times in the event of an emergency. A primary Emergency Coordinator has been designated from this list and is responsible for coordinating emergency response measures. In the event the primary Emergency Coordinator is not available, a designated alternate Emergency Coordinator will be responsible for coordinating all emergency response measures. A designated Emergency Coordinator will be at the Clean Harbors Colfax, LLC facility at all times or will be available on an on-call basis.

The first person to be called during an emergency will be the primary Emergency Coordinator. If the primary Emergency Coordinator is unavailable, the alternate Emergency Coordinator will act as Emergency Coordinator and will be responsible for coordinating the emergency response measures. In the event of an emergency, the Emergency Coordinator responding to the emergency must call all others on the following list:

##### **Primary Emergency Coordinator**

Jim Gallion  
Title: General Manager

Work Phone: 318-627-3443  
Home Phone: 318-627-2961  
Mobile: 318-201-6602

##### **Alternate Emergency Coordinators**

Ken Michels  
Title: Operations Manager

Work Phone: 318-627-3443  
Home Phone: 318-765-9691  
Mobile: 318-201-6603

David Lasyone  
Title: Explosive Technician Supervisor

Work Phone: 318-627-3443  
Home Phone: 318-627-3771

**A. Responsibilities and Duties**

The Emergency Coordinator or alternate is responsible for insuring that the Contingency Plan is implemented during an emergency situation and has complete authority from Clean Harbors Colfax, LLC to commit funds necessary to carry out any emergency procedure. The Emergency Coordinator determines, by report or actual observation, if an emergency exists at a hazardous waste facility. If an emergency exists, the Emergency Coordinator has the responsibility to:

1. Activate communication system to notify all plant personnel;
2. Notify appropriate emergency response and regulatory agencies;
3. Immediately identify the character, exact source, amount and extent of area of any released materials;
4. Assess hazard to human health or the environment due to direct and indirect effects of any toxic, irritating or asphyxiating gases that are generated or the effects of any hazardous surface waste run-off from water or chemical agents used to control fire and heat-induced explosions.
5. If the Emergency Coordinator believes the emergency could threaten human health or the environment outside Clean Harbors Colfax, LLC property, he must immediately:

Notify the Louisiana Department of Environmental Quality Emergency Response Section and provide his name and telephone number, the name and address of the facility, time and type of incident, name and quantity of material(s) involved, the extent of injuries, if any, and the possible hazards to human health or the environment outside the plant. If evacuation of local areas may be advisable, immediately notify the appropriate local authorities;

6. Implement all measures necessary to ensure that fires, explosions and releases do not occur or spread to other hazardous wastes at the plant. These measures may include stopping operations, collecting and containing released waste and removing or isolating containers;
7. If the plant stops operation in response to a fire, explosion or release, take measures necessary to monitor the facility;
8. Directly following the emergency, provide for the treatment, storage or disposal of recovered waste, contaminated soil, surface water or other contaminated material resulting from the emergency;

9. Ensure that clean-up is complete before managing any waste that may be incompatible with the released waste;
10. Insure that all emergency equipment is cleaned and fit for use before operations are resumed.

After the emergency, the Emergency Coordinator is responsible for certain reporting requirements. The Louisiana Department of Environmental Quality and appropriate state and local authorities must be notified that the plant is in compliance before operations are resumed. It must be noted in the Clean Harbors Colfax, LLC operating record the time, date and details of the emergency. Also, within 15 days of an emergency requiring implementation of the Contingency Plan, a written report must be submitted to the Louisiana Department of Environmental Quality which includes the following information:

1. Name, address and telephone number of owner;
2. Name, address and telephone number of plant;
3. Date, time and type of incident;
4. Name and quantity of material(s) involved;
5. The extent of injuries, if any;
6. An assessment of actual or potential hazards to human health or the environment, where applicable, and;
7. Estimated quantity and disposition of recovered material that resulted from the emergency.

#### **B. Emergency Contacts**

The following table lists the organizations that can be contacted by the Emergency Coordinator in the event of an emergency.

<u>Emergency</u>	<u>Organization</u>	<u>Number</u>
Injury/ Illness	Grant Medical Center Colfax, LA	318-627-3101
	Rapides Regional Hospital	318-473-3000

	Med Express Colfax, LA (ambulance/helicopter)	911
	Acadian Ambulance Alexandria, LA	911
Fire or Explosion	LA DEQ Baton Rouge, LA	225-219-3181
	Grant Parish Sheriff	318-627-3261 or 911
	Colfax Volunteer Fire Department	911
RQ Spill	Grant Parish LA Emergency Preparedness Committee	318-627-3261
	Louisiana State Police Hazardous Materials Unit	225-925-6925
	LA DEQ	225-219-3181

## **V. EMERGENCY EQUIPMENT**

The following sections describe the emergency equipment available at Clean Harbors Colfax, LLC, which could be used during an emergency. Each list of emergency equipment can be found in the appropriate sections of the appendices. The location of the emergency equipment at the facility is shown on Figure 2.

### **A. Fire Fighting Equipment**

The list of fire fighting equipment and fire fighting systems, the locations and capabilities at Clean Harbors Colfax, LLC is located in Appendix A.

### **B. Spill Control Equipment**

The list of the equipment available at Clean Harbors Colfax, LLC that may be used in the event of a hazardous waste spill is located in Appendix B.

### **C. Communications and Alarm Systems**

Clean Harbors Colfax, LLC maintains an internal communications system for notification and instruction of personnel in case of an emergency. The communications system consists of an internal telephone network and two-way radios. In the event of an emergency, facility personnel have access to the communications system at the following locations:

Control Room (near burn pad)  
Administrative Office Building  
Guard House

Two-way radios are carried by operations personnel for communications purposes.

### **D. Decontamination Equipment**

The list of the equipment available at Clean Harbors Colfax, LLC that may be used in the event of a hazardous waste spill can be found in Appendix C.

## **VI. CLEAN HARBORS COLFAX, LLC EVACUATION PLAN**

An evacuation plan has been developed for use in emergency situations when personnel must leave a portion of the plant due to a danger to human health. Sufficient aisle space is maintained at the facility to allow unobstructed movement of personnel, fire protection equipment and decontamination equipment to any area of the facility. Clean Harbors Colfax, LLC personnel will be notified to evacuate the facility via two-way radios in the event an emergency situation warrants evacuation. Employees shall leave the plant through the exit gate and proceed to the administrative office building. This point was selected as the primary rendezvous area, and it is sufficiently large enough to accommodate a mass exit of the entire work force. The entrance gate to the burn site has been chosen as a secondary rendezvous area. Figure 3 provides a diagram of the primary and secondary evacuation routes and rendezvous point.

Upon arrival at the rendezvous point, all supervisors will locate those employees assigned to their area. Missing employees will be reported to the Emergency Coordinator. The guard will proceed to the rendezvous point with the visitor sign-in logbook noting the on-site visitors. Any missing visitor will be reported to the Emergency Coordinator.

## **VII. COORDINATION WITH OUTSIDE EMERGENCY AGENCIES**

Clean Harbors Colfax, LLC has contacted and has made arrangements with outside emergency response agencies in order that these agencies become familiar with the facility. These arrangements include coordination with the Louisiana State Police Emergency Response Team in the event of a serious hazardous waste emergency at the plant that requires their assistance. The Colfax Clinic in Colfax, LA and Rapides Regional Hospital in Alexandria, LA will be provided with a description of the types of hazardous waste handled at Clean Harbors Colfax, LLC in order to be prepared for any injuries associated with a hazardous waste accident.

### **A. Arrangements with Police, Fire Department and Emergency Response Teams**

Copies of the Clean Harbors Colfax, LLC Contingency Plan will be supplied to the outside emergency agencies listed below. Written requests have been made to these agencies for assistance in the event an emergency situation occurs at the facility. Furthermore, these agencies have been offered the opportunity to visit the plant to become familiar with the plant layout, the hazardous waste facility locations and the emergency response systems. In addition to the written requests, meetings have been held with the local emergency response agencies to better explain and familiarize these agencies with the safety plans at Clean Harbors Colfax, LLC.

Louisiana Department of Environmental Quality  
Hazardous Waste Division  
P.O. Box 4314  
Baton Rouge, LA 70821-4314

Grant Medical Center  
340 Webb Smith Drive  
Colfax, LA 71417

Grant Parish Sheriff Department  
P.O. Box 223  
Colfax, LA 71417

Colfax Volunteer Fire Department  
Colfax, LA 71417

Louisiana State Police  
Emergency Response Section  
P.O. Box 66614  
Baton Rouge, LA 70896

Grant Parish Office of  
Louisiana Emergency Preparedness Committee  
(LEPC - Old Civil Defense)  
P.O. Box 223  
Colfax, LA 71417

**B. Designated Primary Authority**

In the event of an emergency at the Clean Harbors Colfax, LLC site requiring outside assistance, the designated primary on-scene coordinator will be an emergency response team member from the Louisiana Department of Environmental Quality's Emergency Response Team.



## **VIII. AMENDMENTS TO THE CONTINGENCY PLAN**

This Contingency Plan will be reviewed and immediately amended, if necessary, whenever:

1. The Contingency Plan fails in an emergency.
2. The Clean Harbors Colfax, LLC facility changes its design, construction, operations, maintenance or other circumstances in a way that materially increases the potential for fires, explosions or releases of hazardous waste or hazardous waste constituents.
3. The list of Emergency Coordinators changes.
4. The list of emergency equipment changes.
5. Changes occur to the response necessary in an emergency.

Whenever there has been an approved amendment to the Contingency Plan, all official copies of the Plan must be updated. For the list of official copies, refer to Page 5 of this Plan.

**FIGURE 1**

**SITE PLAN**

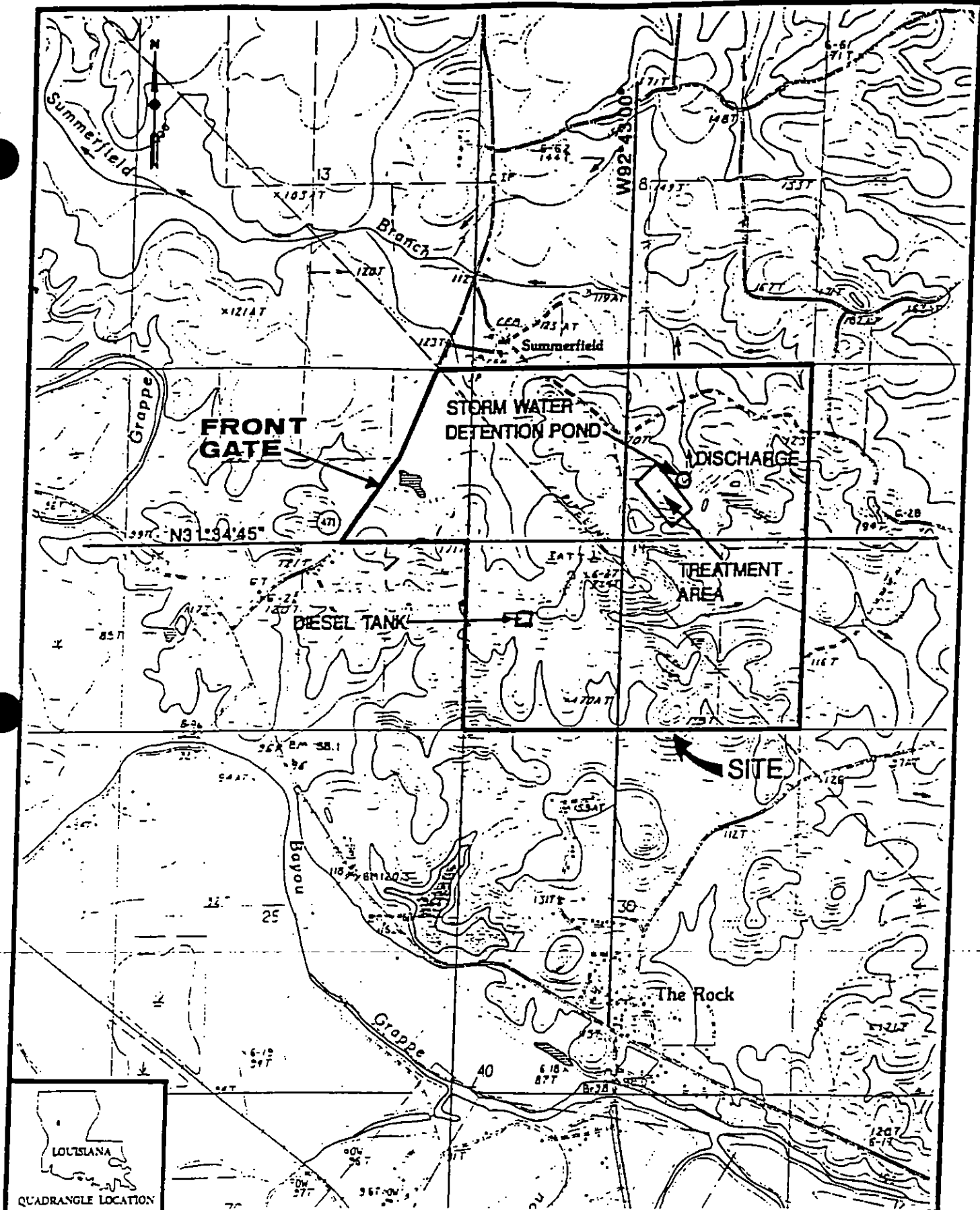
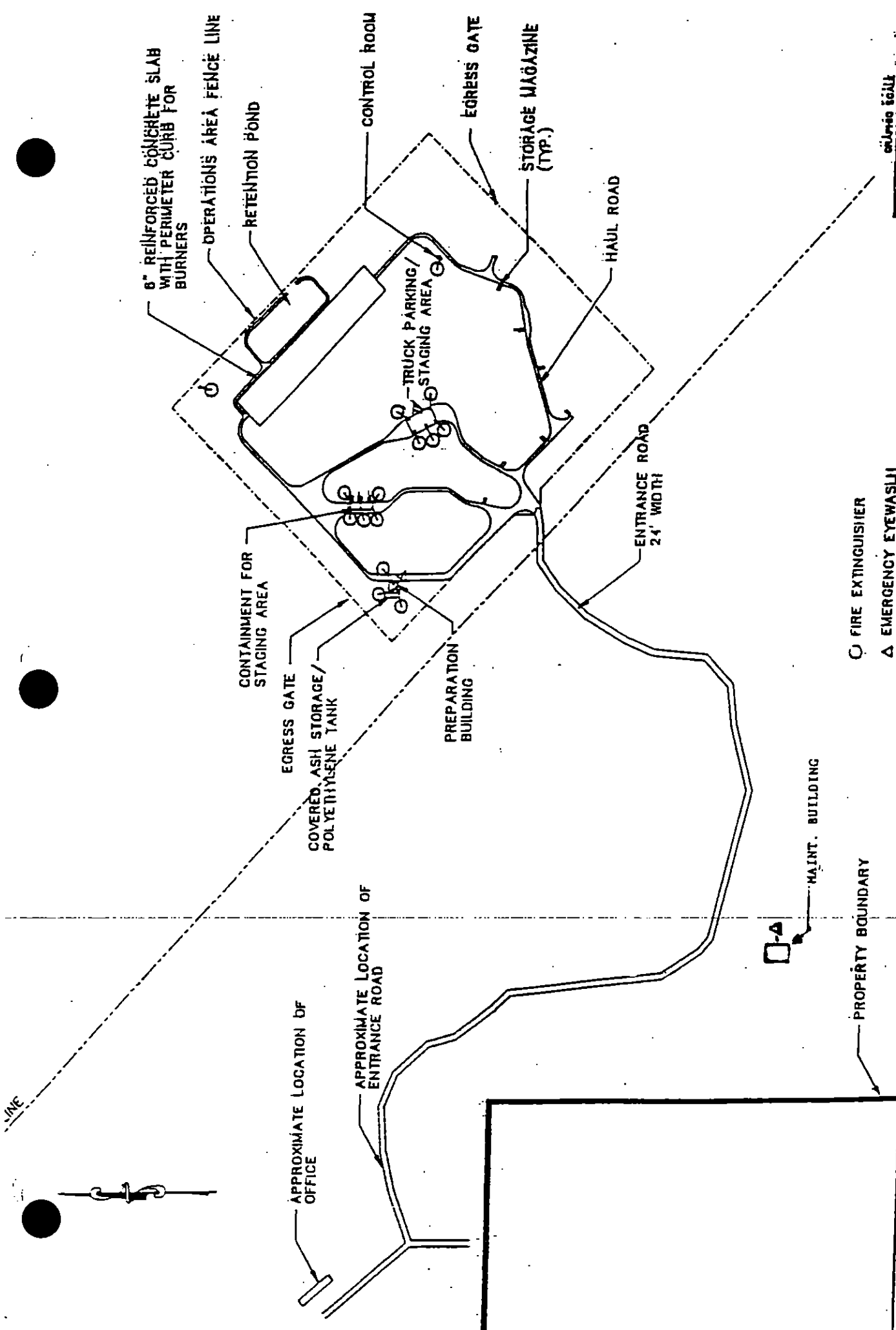


FIGURE 1  
SITE LOCATION MAP  
SCALE: 1"=2000'

**FIGURE 2**  
**LOCATION OF EMERGENCY EQUIPMENT**

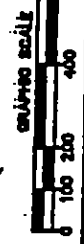
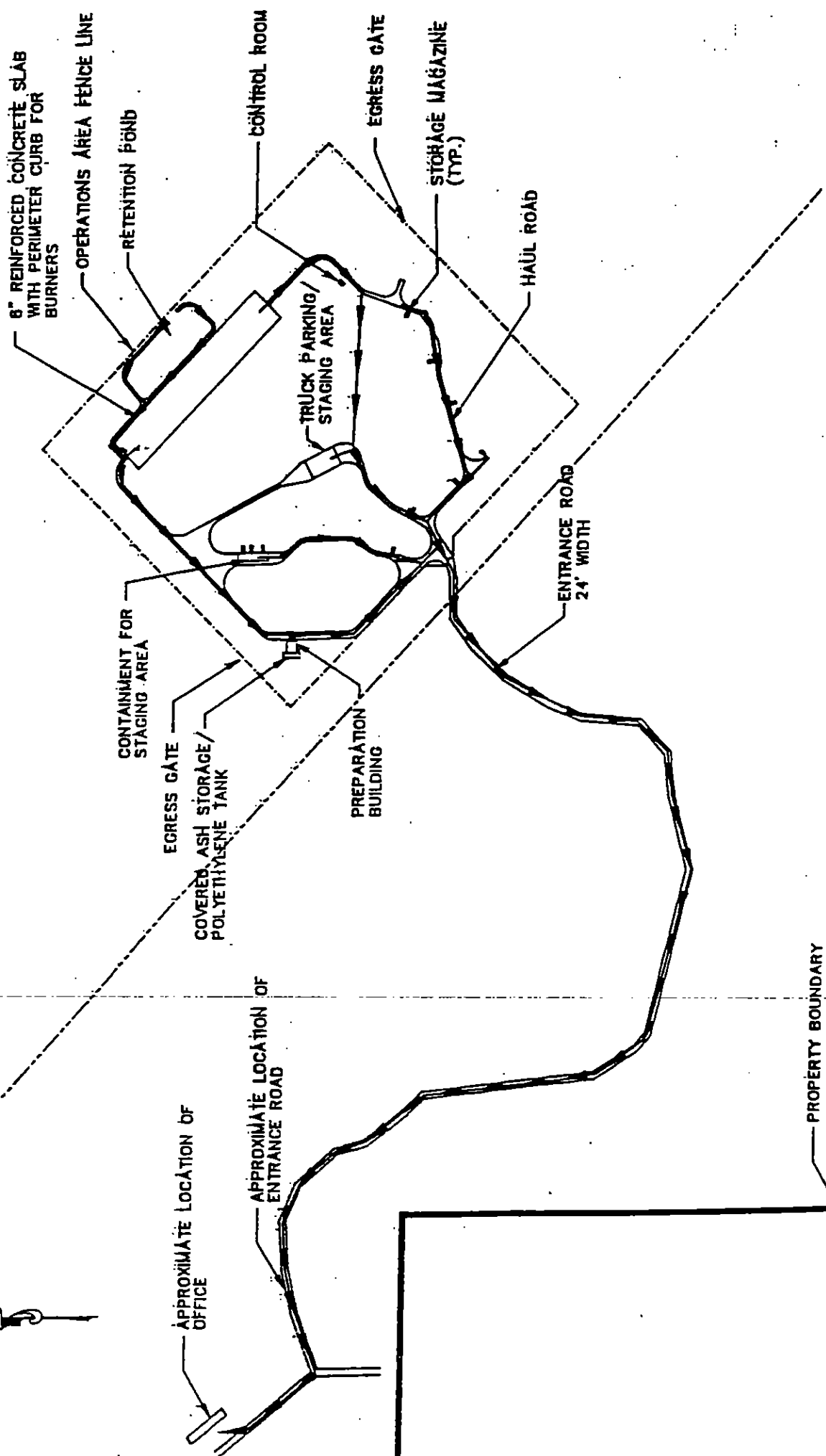


**EMERGENCY EQUIPMENT  
LOCATIONS**

Clean Harbors Colfax, LLC  
Colfax, Louisiana

**FIGURE 3**  
**EVACUATION PLAN**

PIPELINE



SCALE	1" = 500'
DATE	2/95
PROJECT NO.	16-10675

Clean Harbors Colfax, LLC  
Colfax, Louisiana

PRIMARY  
EVACUATION ROUTE

**CleanHarbors**  
ENVIRONMENTAL SERVICES, INC.

PIPELINE

8" REINFORCED CONCRETE SLAB  
WITH PERIMETER CURB FOR  
BURNERS

OPERATIONS AREA FENCE LINE

RETENTION POND

CONTAINMENT FOR  
STAGING AREA

EGRESS GATE

COVERED ASH STORAGE/  
POLYETHYLENE TANK

APPROXIMATE LOCATION OF  
OFFICE

APPROXIMATE LOCATION OF  
ENTRANCE ROAD

CONTROL ROOM

TRUCK PARKING/  
STAGING AREA

PREPARATION  
BUILDING

EGRESS GATE

STORAGE MAGAZINE  
(TYP.)

HAUL ROAD

ENTRANCE ROAD  
24' WIDTH

PROPERTY BOUNDARY



**CleanHarbors**  
ENVIRONMENTAL SERVICES, INC.

**SECONDARY  
EVACUATION ROUTE**

Clean Harbors Colfax, LLC  
Colfax, Louisiana

SCALE	1" = 500'
DATE	2/95
PROJECT NO.	1A-10095



## APPENDIX A

### LIST OF FIRE FIGHTING EQUIPMENT

<u>Quantity</u>	<u>Equipment</u>	<u>Location</u>	<u>Capability</u>
31	ABC Dry Chemical	Throughout Plant Area	Ten and twenty Pound units to be used on ABC type fires

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## APPENDIX B

### LIST OF SPILL CONTROL EQUIPMENT

<u>Quantity</u>	<u>Equipment</u>	<u>Location</u>	<u>Capability</u>
1	Forklift	Mobile	Can be dedicated immediately to remove contaminated material
1	Front End Loader	Mobile	Can be dedicated immediately to remove contaminated material or dig containment areas
1	Tractor	Mobile	Can be dedicated immediately to farm blade and build fire disc lanes
Multi	Shovels	Preparation Building	Will be used for spill containment and cleanup
3	Spill Kits	Truck Staging and Truck Parking	Will be used for spill containment and cleanup
Multi	Spill Kit Replacements	Preparation Building	Replace materials for those used

## APPENDIX C

### DECONTAMINATION EQUIPMENT

<u>Quantity</u>	<u>Equipment</u>	<u>Location(s)</u>	<u>Capability</u>
6	First Aid Kits	Administrative Office Prep Building Pickup Trucks	This equipment intended for minor injuries only.
3	Utility Vehicles	Mobile	Emergency transport
2	Eyewash	Preparation and Maintenance Building	To remove chemical contaminants if needed.
1	Pressure Washer	Maintenance Building	To clean off any contaminated equipment

#### Protective Equipment

The following protective equipment is available in the Preparation Building and/or the Control Room for Clean Harbors Colfax, LLC employees during a hazardous waste emergency.

- Disposable suits (Tyveks)
- Hard hats
- Cartridge air purifying respirators (full-face)
- Appropriate Cartridges for Respirators
- Gloves with chemical protection
- Rubber boots with chemical protection
- Safety goggles and glasses
- Flame Retardant Clothing
- Face Shields

**APPENDIX J**  
**ENGINEERING CERTIFICATIONS**  
**(RESERVED)**

**APPENDIX K**  
**TRAINING PLAN**

**APPENDIX K**  
**CLEAN HARBORS COLFAX, LLC**  
**TRAINING PLAN**

## **Training Program**

In accordance with the regulatory requirements of the Louisiana Administrative Code (LAC) Title 33 Part V.1515, Clean Harbors Colfax, LLC has developed this Training Program, and it is an integral part of the Part II Permit Application for its facility located near Colfax, Louisiana. A copy of this program is available at the facility at all times.

### **1.0 INTRODUCTION**

Proper training is essential for the safety and well being of all employees and the surrounding community as well as for the efficient and safe operation of all facility processes. Training helps to ensure rapid and effective response to emergency situations. It is the policy of Clean Harbors Colfax, LLC that all employees be trained to perform in a manner that emphasizes accident prevention to safeguard human health and the environment.

#### **1.1 General Training Concept**

The training program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

- Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- Key parameter for automatic waste feed cut-off systems;
- Communications or alarm systems;
- Responses to fires or explosions;
- Responses to surface soils, surface water, and groundwater contamination incidents; and
- Shutdown of operations.

Each new employee is trained in the general orientation and operation of the facility. A training program related to the specified duties of each job function is specifically tailored for the position. No employee is permitted to work unsupervised until he has successfully completed all elements of the tailored training program. A certification of training completion will occur within six months of the new employee's entry into a specific job. In addition, every employee will participate in continuing training as determined necessary by the company to maintain proficiency, to learn new techniques and procedures, and to reinforce safety and quality consciousness.

Training records are maintained in accordance with applicable regulatory requirements. The records are maintained continuously during an employee's tenure and for a minimum of three years for former employees. At a minimum, each employee's training file will

include the employee's current job title, a written job description, and records documenting the dates and types of training the employee has been provided. The written job description will include detailed information as to the type and amount of introductory and continuing training is required for that job title.

## **1.2 Program Implementation**

Implementation of the training program encompasses:

- Identification of training requirements (for each job)
- Design of training modules and tests
- Selection of qualified instructors
- Employee testing
- Documentation of each training session

Responsibility for the training program rests with the General Manager. He or she, in conjunction with the corporate training personnel, designates qualified instructors, approves the training program content and format, provides the necessary resources, and maintains employee training records.

## **2.0 FACILITY ORGANIZATION**

Training is tailored to prepare the employees to safely and effectively perform the functions of their position. Job descriptions are the key to designing responsibilities and duties of each position, and likewise the specific training necessary to accomplish those duties. Personnel with the following position titles are employed from time to time at this facility:

- General Manager
- Operations Manager
- Operator
- Shared Services Administrator (SSA)

A current facility organization chart is maintained on-site at all times. The position descriptions, including basic function, duties and job requirements presented for each of the above listed position titles are also maintained on-site at all times.

## **3.0 TRAINING PROGRAM**

### **3.1 Orientation**

All new employees participate in an orientation program designed to familiarize the employee with their new surroundings. To ensure that all appropriate topics are covered, an



orientation checklist is completed and signed by all participating in the orientation. The completed checklist is then placed in the employee's personnel training file as a permanent record.

The following is a description of the Orientation Training:

1. Completion of all applicable personnel forms.
2. Discussion with the General Manager
  - a. Welcome
  - b. Organization and goals of:
    - (i) Facility
    - (ii) Company
3. Policies and Benefits
4. Safety
  - a. Safety Policy
  - b. Individual Responsibility
  - c. Accident and Incident Reporting
  - d. Issue and Discuss Safety Equipment (as appropriate)
    - (i) Safety Glasses
    - (ii) Respirator
    - (iii) Gloves
    - (iv) Rain Gear
    - (v) Rubber Boots
5. Regulatory Review
6. Job Description and Duties (as applicable)
7. Facility Tour
  - a. Storage Magazines
  - b. Preparation Building
  - c. Unloading Area
  - d. Burn Pad

### **3.2 Safety**

Clean Harbors Colfax, LLC has a policy that no job shall be performed if that job endangers the safety or health of any person. The company ensures that all employees are trained to safely perform assigned tasks. All workers assigned to work in an area of the facility where the potential exists for exposure to hazardous waste must complete an intense safety training as mandated by OSHA 29 CFR 1910.120. This training consists of a minimum of 24 hours, and up to 40 hours of classroom activity followed by 24 hours of On-The-Job supervised field activity. In addition to this initial training, employees working in any

hazardous area receive an additional 8 hours of refresher training (at a minimum) annually thereafter. A list of topics covered, but not limited to, is as follows:

1. Possible Site Hazards
  - a. Chemical Exposure
  - b. Fire and Explosion
  - c. Oxygen Deficiency
  - d. Biological Hazards
  - e. Electrical Hazards
  - f. Heat and Cold Emergencies
2. Emergency Response
  - a. Planning and Organization
  - b. Site Control
  - c. Emergency Contingency Plan
  - d. Emergency Equipment
  - e. Emergency Shutdown Procedures
  - f. Decontamination
3. Medical Program and Health Monitoring
4. Use and Care of Personnel Protection Equipment
5. First Aid and Cardio-Pulmonary-Resuscitation
6. Handling Hazardous Waste
7. Confined Space Entry
8. Spill Response and Corrective Measures

All supervisory personnel are required to have 8 hours of supervisory training in the related safety training areas in addition to the above. Within six months of an employee's initial assignment to a job, this training will be conducted and documented in the employee's training file.

All personnel are benefited by additional safety training through safety meetings and discussion, provided by management on a regular basis. On-The-Job training is continuous and ongoing, to further reinforce the emphasis of safety.

### **3.3 Environmental Protection**

Second only to employee safety is the commitment by Clean Harbors Colfax, LLC to environmental protection. All employees are trained to perform assigned tasks in a safe, environmentally sound manner. Employees are instructed as to the most current standards and regulations in regard to the waste treatment operation conducted at the Colfax facility.

Additional training is provided to ensure that in the unlikely event of an emergency, personnel are knowledgeable as to the proper procedure to follow regarding corrective action as well as in reporting and documenting these circumstances. All employees are instructed in necessary emergency cleanup operations and decontamination .

### **3.4 Operations**

The General Manager is responsible for ensuring that each operations employee has been properly trained and can demonstrate knowledge and proficiency in all areas of his job assignment. Each operations employee shall complete an annual review of the Standard Operating Procedures necessary for his/her particular job assignment.

1. Operator
  - a. General Safety
    - (1) Review of Facility Safety Rule and Regulations
    - (2) Use and Location of Fire Extinguishers
    - (3) Location and Operation of Emergency Showers and Eye Wash Stations
  - b. Equipment Operation
    - (1) Truck Unloading Area
    - (2) Preparation Building/Associated Equipment
    - (3) Burn Pad Units
  - c. Environmental Compliance
    - (1) Laws and Regulations
    - (2) Site Permit Requirements
    - (3) Compliance Methods
    - (4) Specific Duties
  - d. Material Familiarization
    - (1) Waste Classification
    - (2) Review Waste Safety Sheets
  - e. Emergency Procedures (Review of Contingency Plan)
    - (1) Fire and/or Explosion
    - (2) Injury
    - (3) Spills
    - (4) Surface Soils, Surface Water, and Groundwater Contamination
    - (5) Shutdown of Operations

### **3.5 Clerical/Shared Services Administrator**

All clerical employees will be trained in those areas that are deemed to be desirable to complement the basic secretarial and clerical skills already possessed. The General Manager is responsible for ensuring that all secretarial and clerical employees are properly trained to

efficiently and courteously perform all assigned duties.

1. Telephone Usage and Etiquette
  - (a) Proper Identification Upon Answering Telephones
  - (b) Proper Emergency Notification Procedures
2. Form Recognition
  - (a) Standard Forms Utilized by the Company
  - (b) Various Waste Identification Forms
3. Required Record Keeping
  - (a) Clean Harbors Records Management
  - (b) State Records
  - (c) Reports/Operating Record
    - (1) Type of Documents Maintained/Required
    - (2) Dates Required
    - (3) Distribution
4. Filing
5. Environmental Compliance
  - (a) Laws and Regulations
  - (b) Site Permit Requirements
  - (c) Compliance Methods
  - (d) Specific Duties

### **3.6 Supervisory**

ALL Supervisory Employees will be trained to perform effectively in all areas of their assigned jobs. Additionally, each supervisor will be trained so that he is knowledgeable, experienced, and capable of training other employees. The General Manager is responsible for ensuring that each supervisor and staff employee is properly trained.

1. General Safety
  - (a) Review of Facility Safety Rules and Regulations
  - (b) Use of Personal Protective Equipment
  - (c) Use and Location of Fire Extinguishers
  - (d) Location and Operation of Emergency Showers and Eye Wash Stations
2. Emergency Procedures (Contingency Plan)
  - (a) Fire and/or Explosion
  - (b) Injury
  - (c) Spills
  - (d) Surface Soils, Surface Water, and Groundwater Contamination
  - (e) Shutdown of Operations
3. Regulatory Familiarization
  - (a) Review of Federal RCRA Regulations

- (b) Review of OSHA Regulations
- (c) Review of Louisiana DEQ Regulations
- (d) Review of all Site Permit Requirements
- (e) Review of ATF Regulations
- 4. Material Familiarization
  - (a) Waste Material Classification
  - (b) Waste Safety Sheets and/or MSDS Information
- 5. Supervisory Techniques (A series of instruction courses completed as needed to strengthen weaknesses and complement strengths.)
- 6. Safety Training for Supervisors (A programmed instruction course to be completed under the leadership of the Health and Safety Department)
- 7. Accident - Incident Investigation (A course to be presented by the Health and Safety Department covering the techniques of investigation and report writing)
- 8. Company Policies
  - (a) Review of Procedures Manual
  - (b) Benefit Programs

### **3.7 Contractors/Outside Emergency Response Personnel**

All contractors and/or outside emergency response personnel (to the extent applicable) will be provided safety indoctrination to ensure the continued safe operations of the facility. The General Manager will be responsible for ensuring that all contractor employees have been properly informed in all aspects of facility safety.

- 1. Facility Safety Policies and Procedures - The contractor's supervisor and/or foreman, along with all other contract personnel, will be provided a copy of the facility's safety policy and pertinent procedures to ensure safety.
- 2. Emergency Procedures - The contractor's supervisor and/or foreman, along with all other contract personnel, will be made familiar with Facility Contingency Plan.
- 3. Waste Safety Sheets - Copies of the Waste Safety Sheets, MSDS's, or other similar documents that include safety information will be made available for contractors based upon potential exposure. The General Manager will be responsible for providing this information to all contract employees.
- 4. Emergency Equipment - The General Manager will inform all contractors regarding the location of fire extinguishers, safety showers, emergency eyewash stations, and first aid materials. Contractors will be provided a plot plan showing the location of all emergency equipment.
- 5. Security - The General Manager will provide security instructions to all

contractors.

6. Environmental Compliance - The General Manager or the Compliance Manager will provide a compliance overview to all contractors.

### **3.8 Regulatory Requirements**

Clean Harbors Colfax, LLC will provide training programs to all affected employees as required by various regulatory agencies. The following is a listing of training that is presently required by regulations.

1. OSHA Requirements
  - (a) 24 or 40 Hour Initial Hazardous Waste Training (in accordance with 29 CFR 1910)
  - (b) Respiratory Protection and Fit Testing
  - (c) Confined Space Entry
  - (d) Handling Carcinogenic Compounds
  - (e) Electrical Safety
  - (f) Moveable Vehicle including Fork Truck Training
  - (g) Emergency Response Procedures (in accordance with 29 CFR 1910)
  - (h) Welding and Cutting Operations
  - (i) 8-Hour Annual Refresher Training (in accordance with 29 CFR 1910)
2. DOT Requirements
  - (a) Equipment Inspection
  - (b) Notification of Deficiency
3. RCRA Requirements
  - (a) Emergency Equipment
    - i. Location
    - ii. Proper Usage
    - iii. Inspection Procedures
    - iv. Repair or Replacement Procedures
  - (b) Emergency Operations Shutdown
    - i. Location
    - ii. Proper Usage
    - iii. Inspection Procedures
    - iv. Repair or Replacement Procedures
  - (c) Emergency Response
    - i. Contingency Plan
    - ii. Spill Prevention
    - iii. Spill Remediation, when necessary
  - (d) Monitoring Equipment, Communications
    - i. Location

- ii. Proper Usage
  - iii. Inspection Procedures
  - iv. Repair or Replacement Procedures
- (e) Annual Review of Initial Training (in accordance with LDEQ and RCRA)
- 4. ATF Regulatory Review
  - (a) Transportation of Explosives
  - (b) Storage of Explosives
  - (c) Thermal Treatment of Explosives
- 5. Waste Minimization